

EXHIBIT 1

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

INTELLECTUAL VENTURES II LLC,

Plaintiff,

v.

**FEDEX CORP., FEDERAL EXPRESS
CORP., FEDEX GROUND PACKAGE
SYSTEM, INC., FEDEX FREIGHT,
INC., FEDEX CUSTOM CRITICAL
INC., FEDEX OFFICE AND PRINT
SERVICES, INC., and GENCO
DISTRIBUTION SYSTEM, INC.,**

Defendants.

Civil Action No. 2:16-cv-00980-JRG

JURY TRIAL DEMANDED

DEFENDANTS' INVALIDITY CONTENTIONS

Pursuant to Local Patent Rule ("P.R.") 3-3 and the Docket Control Order (Dkt. No. 54), Defendants FedEx Corporation, Federal Express Corporation, FedEx Ground Package System, Inc., FedEx Freight, Inc., FedEx Custom Critical, Inc., FedEx Office and Print Services, Inc., and GENCO Distribution System, Inc. (collectively, "FedEx" or "Defendants") respectfully set forth their invalidity contentions for the asserted claims of U.S. Patent Nos. 6,633,900 ("the '900 patent"), 6,909,356 ("the '356 patent"), 7,199,715 ("the '715 patent"), 8,494,581 ("the '581 patent"), and 9,047,586 ("the '586 patent") (collectively, the "asserted patents").

These invalidity contentions address claim 1 of the '900 patent, claims 1, 3-5, 7, 11-14, and 17 of the '356 patent, claims 1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25 of the '715 patent, claims 1-14, 16-20, and 24 of the '581 patent, and claims 7, 8, 12, 13, 16, 18, and 19 of the '586 patent, which are the only claims identified by Plaintiff Intellectual Ventures II LLC ("IV2" or "Plaintiff") in its January 17, 2017, infringement contentions.

To the extent that Defendants' invalidity contentions rely on or otherwise embody particular constructions of terms or phrases in the asserted claims, Defendants are not proposing or adopting any such constructions as proper constructions of those terms or phrases at this time. The Court established separate deadlines for the parties' proposed claim constructions in the Docket Control Order (Dkt. No. 54), and Defendants will disclose their proposed constructions according to those deadlines. For purposes of these invalidity contentions, Defendants may adopt alternative claim construction positions and broadly interpret each term or phrase. Certain of these invalidity contentions may be based on claim constructions that appear to underlie Plaintiff's infringement contentions or claim construction positions in this or in earlier cases. Defendants, however, do not concede that Plaintiff's apparent constructions are proper and reserve the right to contest any such constructions. Moreover, Defendants do not admit that any accused product, method, or service—including any of Defendants' products, methods, or services—infringes any of the asserted claims. Nothing stated herein shall be treated as an admission, acknowledgement, acquiescence, or suggestion regarding the scope of any of the asserted claims or that any accused technology meets any limitations of the claims.

Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Moreover, use of terms herein from the '900, '356, '715, '581, and/or '586 patents should not be understood to mean that such terms as used in the '900, '356, '715, '581, and/or '586 patents, or claims, thereof are definite, enabled, or supported by adequate written description in accordance with 35 U.S.C. §§ 112(1), (2). Likewise, use of terms herein from the '900, '356, '715, '581, and/or '586 patents should not be understood to suggest or imply a common, usual, ordinary, customary, plain, or accepted meaning in the art for any such term.

Pursuant to P.R. 3-3(c), Defendants have, in the attached appendices, identified where the subject matter recited in the preambles of the asserted claims may be found in various prior art references, without regard to whether the preambles are properly considered to be limitations of the asserted claims. Defendants reserve the right to argue that any of the preambles are or are not limiting during the claim construction proceedings in this case.

Defendants' invalidity contentions are based on their current knowledge of the '900, '356, '715, '581, and '586 patents, the prior art, Plaintiff's infringement contentions, and upon information presently and reasonably available to Defendants. This litigation is in the early stages, and Defendants' investigation of the prior art is ongoing. Defendants reserve the right to supplement, amend, modify, revise, or correct any aspect of their invalidity contentions and to provide additional information as such information becomes available through discovery or otherwise. No aspect of Defendants' invalidity contentions shall be deemed to be an admission that their invalidity contentions are complete. In particular, Defendants reserve the right to supplement their invalidity contentions as discovery continues and after any further claim construction by the Court. In addition, Defendants also reserve the right to supplement their invalidity contentions should Plaintiff subsequently attempt to amend its P.R. 3-1 or 3-2 disclosures in any way, or to otherwise modify its infringement allegations against Defendants or seek to establish an earlier date of invention (while reserving all rights to challenge any attempt by Plaintiff to do so).

Defendants further reserve the right to supplement their invalidity contentions with information subsequently provided by Plaintiff concerning its infringement contentions. Plaintiff's purported infringement contentions and accompanying claim charts served January 17, 2017, fail to identify specifically for many of the asserted claim limitations the

allegedly infringing structures and acts in the accused products and methods, in contravention of P.R. 3-1. Plaintiff's failure to identify specifically infringing structures and acts prevents Defendants from searching for, locating, presenting, and relying on prior art having all or some of such structures and acts, thus effectively denying Defendants the opportunity to rely on the fundamental principle that whatever infringes a claim if later in time anticipates the claim if earlier in time, and further denying Defendants the opportunity to conduct other invalidity analytical methods.

I. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

The asserted claims of the '900, '356, '715, '581, and '586 patents are invalid as anticipated by the prior art under various subsections of 35 U.S.C. § 102 and/or as obvious in view of the prior art under 35 U.S.C. § 103. Pursuant to P.R. 3-3(c), the charts attached as appendices to these invalidity contentions set forth how prior art identified by Defendants anticipates either expressly or inherently, and/or renders obvious, each asserted claim. In addition, Defendants incorporate by reference invalidity contentions served in the prior litigations, including Case Nos. 2:15-cv-01414 and 6:16-cv-00195 in the Eastern District of Texas. Defendants reserve the right to rely on any information included in those prior contentions not yet produced by Plaintiff.

In the charts, Defendants cite various relevant portions of the identified prior art references, but other portions may contain additional or different support for a particular claim limitation, and thus may additionally anticipate, either expressly or inherently, and/or render obvious, one or more of the asserted claims. Persons of ordinary skill in the art at the time of the filing of the asserted patents knew to read references as a whole, and in the context of other publications and literature and the general knowledge in the field.

Defendants may rely on any such information, including uncited portions of the prior art, prior art incorporated by reference, other prior art (some of which is specifically identified below), references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the patent-in-suit), and/or expert testimony to provide context to or aid in understanding the cited portions of the identified prior art or to establish that a person of ordinary skill in the art would have been motivated to modify or combine any of the cited references so as to render the claims obvious, or that one of ordinary skill in the art would have found it obvious to perform any step of any method, or to add any structure of any claim at the time of the purported invention, whether or not the step or structure, respectively, is disclosed by the reference in the chart.

Where Defendants cite a particular drawing or figure in the accompanying charts, the citation encompasses and incorporates by such reference the description of the drawing or figure, as well as any text associated with the drawing or figure (even if the associated text is not itself expressly cited). Similarly, where Defendants cite particular text concerning a drawing or figure in the accompanying charts, the citation encompasses and incorporates by such reference that drawing or figure as well (even if the associated drawing or figure is not expressly cited).

Certain pieces of identified prior art inherently disclose features of the asserted claims. Defendants may rely on inherency to demonstrate the invalidity of the asserted claims. Moreover, certain prior art references and solutions may inherently anticipate certain features of the asserted claims as construed by Plaintiff. Defendants may rely on cited or uncited portions of the prior art, other documents, and expert testimony to establish the inherency of certain features of the prior art to invalidate the asserted claims. Defendants also may rely on any reference identified in

these invalidity contentions or any other reference to prove that the references are enabled or to explain the meaning of a term used in any reference.

Defendants further reserve the right to prove the invalidity of the asserted claims on bases other than those required to be disclosed in these disclosures and contentions pursuant to P.R. 3-3, and to rely on documents other than those required to be produced pursuant to P.R. 3-4, including but not limited to further documents that establish what any of the produced references meant to persons of ordinary skill in the fields of the asserted patents, that confirm the contents of any reference, or that show that the claimed subject matter of the asserted patents, as disclosed in any reference, was in the public's possession.

A. Prior Art References

Pursuant to P.R. 3-3(a), and in light of Plaintiff's infringement contentions, Defendants identify the following prior art references and systems currently known to Defendants that anticipate and/or render obvious one or more of the asserted claims. With respect to the system prior art identified below, the asserted claims of the '900, '356, '715, '581, and '586 patents are anticipated and/or rendered obvious both the public use, sale, offer for sale, public knowledge, and prior invention associated with such systems, and by the specific references identified below, whether taken alone or in combination. Pursuant to the discovery framework of this case, Defendants intend to obtain further evidence relating to such prior art systems, such as testimony and additional documents. Defendants intend to rely on such evidence in support of these prior art systems.

1. U.S. Patent No. 4,896,029 ("*Chandler*"), issued Jan. 23, 1990
2. U.S. Patent No. 4,922,516 ("*Butler*"), issued May 1, 1990
3. U.S. Patent No. 5,122,959 ("*Nathanson*"), issued Jun. 16, 1992
4. U.S. Patent No. 5,298,731 ("*Ett*"), issued Mar. 29, 1994

5. U.S. Patent No. 5,363,425 (“*Mufti*”), issued Nov. 8, 1994
6. U.S. Patent No. 5,513,111 (“*Wortham*”), issued Apr. 30, 1996
7. U.S. Patent No. 5,528,518 (“*Bradshaw*”), issued Jun. 18, 1996
8. U.S. Patent No. 5,561,446 (“*Montlick*”), issued Oct. 1, 1996
9. U.S. Patent No. 5,589,835 (“*Gildea*”), issued Dec. 31, 1996
10. U.S. Patent No. 5,664,113 (“*Worger*”), issued Sept. 2, 1997
11. U.S. Patent No. 5,671,362 (“*Cowe*”), issued Sept. 23, 1997
12. U.S. Patent No. 5,682,142 (“*Loosmore*”), issued Oct. 28, 1997
13. U.S. Patent No. 5,708,423 (“*Ghaffari*”), issued Jan. 13, 1998
14. U.S. Patent No. 5,712,789 (“*Radican*”), issued Jan. 28, 1998
15. U.S. Patent No. 5,715,905 (“*Kaman*”), issued Feb. 10, 1998
16. U.S. Patent No. 5,724,243 (“*Westerlage*”), issued Mar. 3, 1998
17. U.S. Patent No. 5,777,884 (“*Belka*”), issued July 7, 1998
18. U.S. Patent No. 5,804,802 (“*Card*”), issued Sept. 8, 1998
19. U.S. Patent No. 5,857,201 (“*Wright*”), issued Jan. 5, 1999
20. U.S. Patent No. 5,880,958 (“*Helms*”), issued Mar. 3, 1999
21. U.S. Patent No. 5,886,634 (“*Muhme*”), issued Mar. 23, 1999
22. U.S. Patent No. 5,920,846 (“*Storch*”), issued Jul. 6, 1999
23. U.S. Patent No. 5,963,134 (“*Bowers*”), Oct. 5, 1999
24. U.S. Patent No. 6,061,607 (“*Bradley II*”), May 9, 2000
25. U.S. Patent No. 6,064,642 (“*Stephenson*”), issued Jul. 25, 2000
26. U.S. Patent No. 6,065,120 (“*Laursen*”), issued May 16, 2000
27. U.S. Patent No. 6,073,062 (“*Hoshino*”), issued Jun. 6, 2000
28. U.S. Patent No. 6,083,353 (“*Alexander*”), issued Jul. 4, 2000
29. U.S. Patent No. 6,094,642 (“*Stephenson*”), issued Jul. 25, 2000
30. U.S. Patent No. 6,102,162 (“*Teicher*”), issued Aug. 15, 2000
31. U.S. Patent No. 6,131,116 (“*Riggins*”), issued Oct. 10, 2000
32. U.S. Patent No. 6,148,261 (“*Obradovich*”), issued Nov. 14, 2000
33. U.S. Patent No. 6,216,158 (“*Luo*”), issued Apr. 10, 2001
34. U.S. Patent No. 6,272,457 (“*Ford*”), issued Aug. 7, 2001
35. U.S. Patent No. 6,289,260 (“*Bradley I*”), issued Sept. 11, 2001
36. U.S. Patent No. 6,292,181 (“*Banerjee*”), issued Sept. 18, 2001
37. U.S. Patent No. 6,300,872 (“*Mathias*”), issued Oct. 9, 2001

38. U.S. Patent No. 6,300,873 (“*Kucharczyk*”), issued Oct. 9, 2001
39. U.S. Patent No. 6,321,158 (“*DeLorme*”), issued Nov. 20, 2001
40. U.S. Patent No. 6,456,239 (“*Werb*”), issued Sept. 24, 2002
41. U.S. Patent No. 6,509,828 (“*Bolavage*”), issued Jan. 21, 2003
42. U.S. Patent No. 6,553,375 (“*Huang*”), issued Apr. 22, 2003
43. U.S. Patent No. 6,587,835 (“*Treyz*”), issued Jul. 1, 2003
44. U.S. Patent No. 6,609,090 (“*Hickman*”), issued Aug. 19, 2003
45. U.S. Patent No. 6,625,454 (“*Rappaport II*”), issued Sept. 23, 2003
46. U.S. Patent No. 6,633,900 (“*Khalessi*”), issued Oct. 14, 2003
47. U.S. Patent No. 6,671,757 (“*Multer*”), issued Dec. 30, 2003
48. U.S. Patent No. 6,748,318 (“*Jones*” or “*Jones I*”), issued Jun. 8, 2004
49. U.S. Patent No. 6,952,645 (“*Jones II*”), issued Oct. 4, 2005
50. U.S. Patent No. 6,909,356 (“*Brown*”), issued June 21, 2006
51. U.S. Patent No. 6,947,976 (“*Devitt*”), issued Sept. 20, 2005
52. U.S. Patent No. 6,971,063 (“*Rappaport*”), issued Nov. 29, 2005
53. U.S. Patent No. 6,993,592 (“*Krumm*”), issued Jan. 31, 2006
54. U.S. Patent No. 7,012,529 (“*Sajkowsky*”), issued Mar. 14, 2006
55. U.S. Patent No. 7,020,701 (“*Gelvin*”), issued Mar. 28, 2006
56. U.S. Patent No. 7,103,886 (“*Haller*”), issued Sept. 5, 2006
57. U.S. Patent No. 7,113,099 (“*Tyroler*”), issued Sept. 26, 2006
58. U.S. Patent No. 7,191,392 (“*Coar*”), issued Mar. 13, 2007
59. U.S. Patent No. 7,209,771 (“*Twitchell*”), issued April 24, 2007
60. U.S. Patent No. 7,312,752 (“*Smith*”), issued Dec. 25, 2007
61. U.S. Patent No. 7,761,347 (“*Fujisawa*”), issued July 20, 2010
62. U.S. Patent No. 7,844,505 (“*Arneson*”), issued Nov. 30, 2010
63. U.S. Patent No. 8,321,302 (“*Bauer*”), issued Nov. 27, 2012
64. U.S. Patent No. 8,438,084 (“*Tesler*”), issued May 7, 2013
65. U.S. Patent Publication No. 2001/0051905 (“*Lucas*”), issued Dec. 13, 2001
66. U.S. Patent Publication No. 2002/0065728 (“*Ogasawara*”), published May 30, 2002
67. U.S. Patent Publication No. 2003/0177025 (“*Curkendall*”), issued Sept. 18, 2003
68. U.S. Patent Publication No. 2005/0108044 (“*Koster*”), issued May 19, 2005
69. U.S. Patent Publication No. 2006/0049250 (“*Sullivan*”), issued Mar. 9, 2006

70. PCT International Publication No. WO 96/27171 (“*Kadaba*”), published Sept. 6, 1996
71. One or more generations of the United Parcel Service, Inc. (“UPS”) Delivery Information Acquisition Device (“DIAD”) and/or the UPS systems with which the DIAD communicates (collectively, the “UPS Prior Art Systems”), publicly known and in public use by UPS prior to Jan. 9, 1998, which is disclosed in and/or related to:
 - U.S. Patent No. 6,285,916 (“*Kadaba II*”), issued Sept. 4, 2001
 - John Kralovec, IS-Directed Reengineering Implementation Avenues, *Information Systems Management* 12:1, at 80 (1995)
 - Gary A Fergusuon, UPS’s Industrial Engineers Set New Pace for Change by Moving at the Speed of Business, *Industrial Engineering Solutions*, at 31 (May 1995)
72. One or more of the FedEx Customer Operations Service Master On-Line System (“COSMOS”), FedEx Digitally Assisted Dispatch System (“DADS”), FedEx Supertracker, FedEx Enhanced Supertracker, FedEx DADS Terminal, FedEx DADS Handheld, and FedEx PowerPad, formed one or more prior art systems (the “FedEx Prior Art Systems”), publicly known and in public use by FedEx prior to Jan. 9, 1998, which is disclosed in and/or related to:
 - U.S. Patent No. 6,094,642 (“*Stephenson*”), issued Jul. 25, 2000
 - Carl Nehls, Custodial Package Tracking at Federal Express, in *Managing Innovation: Cases from the Services Industries*, National Academy of Engineering, at 57-81 (1988)
 - Federal Express, Enhanced SuperTracker (EST) Maintenance Manual (Aug. 31, 1997)
 - Federal Express, Future Courier Tool Concepts, V0.2 (May 10, 1995)
 - Federal Express, DADS User Manual (Training Version) (May 1995)
 - Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2 (Apr. 17, 1995)
 - Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994)
 - Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, *Institute for Operations Research and the Management Sciences, Interfaces* 27:2 (Mar.-Apr. 1997).

73. The OmniTRACS Mobile Communications System by QUALCOMM (“OmniTRACS” or the “OmniTRACS System”), publicly known, in public use, and offered for sale by QUALCOMM prior to Jan. 9, 1998, which is disclosed in and/or related to:

- Agis Salpukas, *Business Technology; Satellite System Helps Trucks Stay in Touch*, N.Y. TIMES, June 5, 1991, <http://www.nytimes.com/1991/06/05/business/business-technology-satellite-system-helps-trucks-stay-in-touch.html>
- Dimitris A Scapinakis & William L. Garrison, Communications and Positioning Systems in the Motor Carrier Industry, California Partners for Advanced Transportation Technology, PATH Research Report UCB-ITS-PRR-91-10 (1991)
- Dimitris A. Scapinakis & William L. Garrison, Studies of the Adoption and Use of Location and Communication Technologies by the Trucking Industry, California Partners for Advanced Transportation Technology, PATH Research Report UCB-ITS-PRR-91-2 (January 1, 1991)
- Allen Salmasi, An Overview of the OmniTRACS - The First Operational Mobile Ku-Band Satellite Communications, N88-25689 (1988)
- Franklin P. Antonio, et al., Technical Characteristics of the OmniTRACS - the First Operational Mobile Ku-Band Satellite Communications System, N88-25709 (1988)
- Edward G. Tiedemann, Jr., et al., The OmniTRACS® Mobile Satellite Communications and Positioning System, SAE Technical Paper 901175 (1990)
- Irwin M. Jacobs, et al., A Second Anniversary Operational Review of the OmniTRACS® - The First Two-way Mobile Ku-band Satellite Communications System, N92-24074 (1992)
- Daniel L. Sellers & Thomas J. Bernard, An Update on the OmniTRACS Two-Way Satellite Mobile Communications System and Its Application to the Schneider National Truck Fleet, Society of Automotive Engineers, Inc. (Oct. 1992)
- Irwin M. Jacobs, An Overview of the OmniTRACS®: the First Operational Two-Way Mobile Ku-Band Satellite Communications System, 7 Space Communications 1 (Dec. 1989)
- OmniTRACS, Products and Technology, System Overview (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/system.html> [<https://web.archive.org/web/19980211122129/http://www.omnitracs.com/OmniTRACS/products/system.html>].
- OmniTRACS, Products and Technology, QTRACS (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/qtracs.html>

- [<https://web.archive.org/web/19980211122141/http://www.omnitracs.com/OmniTRACS/products/qtracs.html>].
- OmniTRACS, Products and Technology, QTRACS Functions (Feb. 11, 1998), www.omnitracs.com/OmniTRACS/products/functions.html [<https://web.archive.org/web/19980211132349/http://www.omnitracs.com/OmniTRACS/products/functions.html>]
 - OmniTRACS, Products and Technology, OmniTRACS Mobile Communications (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/> [<https://web.archive.org/web/19980211114623/http://www.omnitracs.com/OmniTRACS/products/>].
 - Qualcomm Press Release, Qualcomm Introduces OnTRACS State Mileage Reporting Software (Mar. 12, 1997), <https://www.qualcomm.com/news/releases/1997/03/12/qualcomm-introduces-ontracs-state-mileage-reporting-software>.
 - Qualcomm Press Release, Qualcomm Announces Availability of ETA and Out of Route Software product for OmniTRACS® Customers, <https://www.qualcomm.com/news/releases/1996/03/18/qualcomm-announces-availability-eta-and-out-route-software-product>.
 - OmniTRACS, Products and Technology, TrailerTRACS (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/ttracs.html> [<https://web.archive.org/web/19980211132618/http://www.omnitracs.com/OmniTRACS/products/ttracs.html>]
 - OmniTRACS, Products and Technology, Information Reporting Systems (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/info.htm> [<https://web.archive.org/web/19980211122218/http://www.omnitracs.com/OmniTRACS/products/info.html>]
 - OmniTRACS, Products and Technology, QTRACS Platforms (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/platforms.html> [<https://web.archive.org/web/19980211132355/http://www.omnitracs.com/OmniTRACS/products/platforms.html>]
74. One or more generations of SitePlanner from Wireless Valley Communications, Inc. (“Wireless Valley”), including its PalmFielder, InFielder, Predictor, Optimatic, and Building Database Manager (BDM) modules (collectively, the “SitePlanner Systems”), publicly known, in public use, and offered for sale by Wireless Valley prior to September 25, 2000, which is disclosed in and/or related to:
- U.S. Patent No. 6,971,063 to Rappaport (“Rappaport”)
 - U.S. Patent No. 6,625,454 to Rappaport (“Rappaport II”)
 - Bill Schweber, With the Right Tools, You Can Score Big in the RF Field of Dreams, EDN Magazine, Techtrends (Jul. 6, 2000).

- Robert K. Morrow, Jr., et al., *Getting In: In-building Coverage Is a Must. New Software and CAD Renditions Can Help You Achieve RF Penetration*, www.wirelessreview.com, Wireless Review (Mar. 1, 2000)
 - InFielder™ PDA, Wireless Valley Communications, Inc., (May 17, 2001)
 - Roger R. Skidmore & Theodore S. Rappaport, SMT Plus 1.0 User's Manual, Virginia Tech (Aug. 1996).
 - Theodore S. Rappaport, et al., *SitePlanner 3.0 User's Manual*, Wireless Valley Communications, Inc. (1998)
 - *PalmFielder™*, Wireless Valley Communications, Inc. (Jan. 16, 2001)
 - *PalmFielder™*, Wireless Valley Communications, Inc. (Dec. 26, 2000)
 - *SiteSpy User's Manual*, Wireless Valley Communications, Inc., (Dec. 14, 2000)
 - *SitePlanner® 2000 User's Manual*, Wireless Valley Communications, Inc., (Aug. 22, 2000)
 - *SitePlanner® 2000 Setup and Quick Start Guide*, Wireless Valley Communications, Inc. (Aug. 22, 2000)
 - *SitePlanner™, User's Manual*, Wireless Valley Communications, August 16, 1999
 - InFielder™ Documentation, ZK Celltest ZK-SAM Receivers DX-136 & DXC, Wireless Valley Communications, Inc. (August 23, 2000)
 - *InFielder™ Documentation, ZK Celltest ZK-SAM Receivers*, Wireless Valley Communications, Inc. (Jun. 22, 1999)
 - Theodore S. Rappaport et al., *SitePlanner 4.0 User's Manual*, Wireless Valley Communications, Inc. (August 16, 1999)
75. The the SpotON system ("SpotOn") by the University of Washington and/or Palo Alto Research Center Incorporated ("PARC"), publicly known, in public use, and offered for sale by the University of Washington and/or PARC prior to November 2, 2001, which is disclosed in and/or related to:
- Jeffrey Hightower et al., *SpotON: An Indoor 3D Location Sensing Technology Based on RF Signal Strength* 1-16 (2000)
76. Taylor, Mark A., *Increasing Profit & Productivity Through Technology, Computerized Shipping Systems*, 1995 ("*Computerized Shipping Systems*")
- American National Standards Institute MH10.8.3M-1996, Aug. 1996 ("*ANSI*")
77. The Multicode System by RPS ("*Multicode System*") publicly known, in public use, and offered for sale by RPS prior to May 30, 2001, which is disclosed in and/or related to:
- RPS, RPS Multicode Bar Code Label Guide, Apr. 1998 ("*Multicode Guide*")

- RPS, RPS's Multicode (SM) Gives Shippers, Oct. 18, 1995
 - The Future of Bar Code Technology, *Scanner*, Vol. X. Issue 5 (1995)
 - RPS, "Multicode" January 1996
78. The UPS System by UPS ("*UPS*") publicly known, in public use, and offered for sale by RPS prior to May 30, 2001, which is disclosed in and/or related to:
- United Postal Service, Guide to Bar Coding with UPS For Customers Generating Bar Code Labels, Ver. III (Jan. 1996) ("*UPS Guide*")
79. The FedEx interNetShip System by Federal Express ("*interNetShip System*") publicly known, in public use, and offered for sale by RPS prior to May 30, 2001, which is disclosed in and/or related to:
- Federal Express, FedEx interNetShip Customer Automation Manual, Shipping the Internet Way Now There's FedEx internNetShip, (Oct. 6, 1997) - *Confidential*
 - Federal Express, Intro to FedEx Ship & interNetShip part 1 Video, (1990s) ("*interNetShip Video 1*") - *Confidential*
 - Federal Express, FedEx Ship Tutorial Video, (1990s) - *Confidential*
80. The FedEx Ship System ("*FedEx Ship System*") publicly known, in public use, and offered for sale by RPS prior to May 30, 2001, which is disclosed in and/or related to:
- Federal Express, Video "Intro to FedEx Ship & interNetShip" part 1 (1990s) - *Confidential*
 - Federal Express, FedEx Ship Tutorial part 2 Video, (1990s) - *Confidential*
 - Federal Express, *New and Improved FedEx Ship Software is Available*, (May 1, 1999) *available at* <https://web.archive.org/web/19990501085456/http://www.fedex.com/us/software/automation/ship.html#download>
 - Federal Express, *eBusiness Tools FedEx Ship*, (August 15, 2000) *available at* <https://web.archive.org/web/20000815054215/http://www.fedex.com/us/ebusiness/eshipping/ship.html>
81. The FedEx PowerShip System ("*PowerShip System*") publicly known, in public use, and offered for sale by RPS prior to May 30, 2001, which is disclosed in and/or related to:
- Federal Express, PowersShip 3 Video (Mar. 1, 1997) - *Confidential*
 - Federal Express, *Shipping Tools FedEx PowerShip Plus*, (Oct. 1, 1999) *available at* <https://web.archive.org/web/19991001094239/http://fedex.com/us/software/automation/powershipplus.html> ("*PowerShip Tools*")
 - Federal Express, Powership 2 (1994) - *Confidential*

- Federal Express, PowerShip 3 User Manual (1993) - *Confidential*
- Federal Express, Federal Express Announces PowerShip-3 Video,(Mar. 1994)-*Confidential*

With respect to all of the above prior art systems, Defendants reserve the right to update these invalidity contentions with additional information concerning (i) the specific item(s) offered for sale or publicly used or known; (ii) the date(s) that the offer(s) or use(s) took place or the information became known; and (iii) the identity of the person(s) or entity(ies) that made the use(s), or made and received the offer(s), or the person(s) or entity(ies) that made the information known or to whom it was made known.

B. Anticipation

1. '900 Patent

Each of the following prior art references or items anticipates one or more of the asserted claims of the '900 patent, and thus those claims are invalid under 35 U.S.C. §§ 102(a), (b), (e), and/or (g).

Prior Art	Claims Anticipated	Appendix
<i>Storch</i>	1	A01
<i>Jones</i>	1	A02
OmniTRACS	1	A04
<i>Kadaba</i>	1	A05
<i>Hoshino</i>	1	A06
UPS Prior Art Systems	1	A07
<i>Stephenson</i>	1	A08
FedEx Prior Art Systems	1	A09

2. '356 Patent

Each of the following prior art references or items anticipates one or more of the asserted claims of the '356 patent, and thus those claims are invalid under 35 U.S.C. §§ 102(a), (b), (e), and/or (g).

Prior Art	Claims Anticipated	Appendix
<i>Arneson</i>	1, 3-5, 7, 11-14, and 17	B01
<i>Ghaffari</i>	1, 3-5, 7, and 11-14	B14
<i>Helms</i>	1, 3, 11, and 14	B11
<i>Bowers</i>	1, 3-5, 7, 11-14, and 17	B18
OmniTRACS	1, 3-5, 11, 12, and 14	B20
The SpotON system	1, 3-5, 11, 12, and 14	B21
<i>Stephenson</i>	1, 7, 11, 12, and 14	B22
The FedEx Prior Art systems	1, 7, 11, 12, and 14	B23

3. '715 Patent

Each of the following prior art references or items anticipates one or more of the asserted claims of the '715 patent, and thus those claims are invalid under 35 U.S.C. §§ 102(a), (b), (e), and/or (g).

Prior Art	Claims Anticipated	Appendix
<i>Smith</i>	1, 4, 9, 11, 14, 19, and 22	C01
<i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C02
<i>Jones II</i>	1, 4, 11, 14, 15, 17, 19, 22, 23, and 25	C05
<i>Krumm</i>	1 and 4	C15

<i>Stephenson</i>	1, 3, 7, 9, 11, 14, 17, and 19	C23
FedEx Prior Art Systems	1, 3, 7, 9, 11, 14, 17, and 19	C24
<i>Kadaba</i>	1, 3, 7, 9, 11, 14, 17, and 19	C25
UPS Prior Art Systems	1, 3, 7, 9, 11, 14, 17, and 19	C26

4. '581 Patent

Each of the following prior art references or items anticipates one or more of the asserted claims of the '581 patent, and thus those claims are invalid under 35 U.S.C. §§ 102(a), (b), (e), and/or (g).

Prior Art	Claims Anticipated	Appendix
<i>Rappaport</i>	1-9, 11-14, 18-19, 24	D01
<i>Devitt</i>	1-9, 11-14, 16, 18-19, 24	D02
<i>Bradshaw</i>	1-3, 6-14, 18-19, 24	D03
<i>Hickman</i>	1-3, 5-14, 16-20, 24	D04
<i>Treyz</i>	1-14, 16-20, 24	D05
<i>Ogasawara</i>	1-3, 5-14, 17-18, 24	D08
<i>Ford</i>	1-3, 6-7, 10-14, 18-20, 24	D09
<i>Stephenson</i>	1-14, 16-20, 24	D10
SitePlanner System	1-9, 11-14, 18-19, 24	D11
FedEx Prior Art Systems	1-14, 16-20, 24	D12
OmniTRACS	1-3, 5-14, 16-20, 24	D13
UPS Prior Art Systems	1-14, 16-20, 24	D14

5. '586 Patent

Each of the following prior art references or items anticipates one or more of the asserted claims of the '586 patent, and thus those claims are invalid under 35 U.S.C. §§ 102(a), (b), (e), and/or (g).

Prior Art	Claims Anticipated	Appendix
<i>ANSI</i>	7, 8, 12, 13, 16, 18, and 19	E01
<i>MultiCode System</i>	7, 8, 12, 13, 16, 18, and 19	E09
<i>UPS</i>	7, 8, 12, 13, 16, 18, and 19	E18
<i>Coar</i>	7, 8, 12, and 16	E16

C. Obviousness

Pursuant to P.R. 3-3(b), in this section and in the attached claim chart appendices, FedEx identifies the following exemplary combinations of prior art it presently intends to rely on to show that the asserted claims of the '900, '356, '715, '581, and '586 patents are obvious. In each instance, FedEx contends that the identified claim is rendered obvious by the identified reference or references, either alone, or in combination with the knowledge of a PHOSITA. FedEx's inclusion of exemplary combinations does not preclude FedEx from identifying other invalidating combinations as appropriate. For example, in addition to these exemplary combinations, each prior art reference listed below may be combined with one or more of the other prior art references to render the asserted claims obvious. The exemplary combinations identified below are alternatives to FedEx's anticipation and single-reference obviousness contentions, and, thus, they should not be interpreted as indicating that any of the individual references included in the exemplary combinations are not by themselves invalidating prior art under §§ 102 and/or 103.

1. Prior Art Combinations

a. '900 Patent

Each of the prior art references identified above in the corresponding anticipation section, by itself, also renders one or more of the asserted claims of the '900 patent obvious under 35 U.S.C. § 103. Additionally, the asserted claims are obvious under 35 U.S.C. § 103 in view of the exemplary combinations of prior art identified in each of the appendices listed below. Suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory or that any particular limitation is missing from a particular reference.

Prior Art	Claims Rendered Obvious	Appendix
<i>Storch</i> in combination with one or more of <i>Butler</i> and <i>Laursen</i>	1	A01
<i>Jones</i> in combination with one or more of <i>Kaman</i> , <i>Laursen</i> , <i>Westerlage</i> , <i>Wortham</i> , <i>Kadaba</i> , <i>Hoshino</i> , <i>Stephenson</i> , OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A02
<i>Westerlage</i> in combination with one or more of <i>Wortham</i> , <i>Kaman</i> , <i>Laursen</i> , <i>Jones</i> , <i>Kadaba</i> , <i>Hoshino</i> , <i>Stephenson</i> , OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A03
OmniTRACS in combination with one or more of <i>Kaman</i> , <i>Laursen</i> , <i>Jones</i> , <i>Westerlage</i> , <i>Wortham</i> , <i>Kadaba</i> , <i>Hoshino</i> , <i>Stephenson</i> , the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A04

Prior Art	Claims Rendered Obvious	Appendix
<i>Kadaba</i> in combination with one or more of <i>Kaman, Laursen, Jones, Westerlage, Wortham, Hoshino, Stephenson</i> , OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A05
<i>Hoshino</i> in combination with one or more of <i>Kaman, Laursen, Jones, Westerlage, Wortham, Kadaba, Stephenson</i> , OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A06
UPS Prior Art Systems in combination with one or more of <i>Kaman, Laursen, Jones, Westerlage, Wortham, Kadaba, Hoshino, Stephenson</i> , OmniTRACS, and the FedEx Prior Art Systems	1	A07
<i>Stephenson</i> alone or in combination with one or more of <i>Kaman, Laursen, Jones, Westerlage, Wortham, Kadaba, Hoshino</i> , OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems	1	A08
FedEx Prior Art Systems in combination with one or more of <i>Kaman, Laursen, Jones, Westerlage, Wortham, Kadaba, Hoshino, Stephenson</i> , OmniTRACS, and the UPS Prior Art Systems	1	A09

b. '356 Patent

Each of the prior art references identified above in the corresponding anticipation section, by itself, also renders one or more of the asserted claims of the '356 patent obvious under 35 U.S.C. § 103. Additionally, the asserted claims are obvious under 35 U.S.C. § 103 in view of the exemplary combinations of prior art identified in each of the appendices listed below. Suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the

combinations is not by itself anticipatory or that any particular limitation is missing from a particular reference.

Prior Art	Claims Rendered Obvious	Appendix
<i>Arneson</i> in combination with one or more of <i>Bradley I</i> , <i>Bradley II</i> , and <i>Loosmore</i>	1, 3-5, 7, 11-14, and 17	B01
<i>Jones</i> in combination with one or more of <i>Arneson</i> , <i>Bradley II</i> , and <i>Cowe</i>	1, 3-5, 7, 11-14, and 17	B02
<i>Bradley I</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley II</i> , and <i>Cowe</i>	1, 3, 7, and 17	B03
<i>Bradley II</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Cowe</i>	1, 3, and 17	B04
<i>Cowe</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1 and 7	B05
<i>Teicher</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1	B06
<i>Radican</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , <i>Bradley II</i> , and <i>Cowe</i>	1, 3, 7, and 11-14	B07
<i>Mathias</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1 and 3-5	B08
<i>Muhme</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	7 and 17	B09
<i>Card</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 7, and 11	B10

Prior Art	Claims Rendered Obvious	Appendix
<i>Helms</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 3, 11, and 14	B11
<i>Loosmore</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 3-5, 11, 12, 14, and 17	B12
<i>Lucas</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 3, 5, 7, and 12-14	B13
<i>Ghaffari</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , <i>Bradley II</i> , and <i>Radican</i>	1, 3-5, 7, and 11-14	B14
<i>Belka</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1 and 3-5	B15
<i>Mufti</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1	B16
<i>Worger</i> in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 3-5, 7, and 17	B17
<i>Bowers</i> in combination with one or more of <i>Arneson</i> and <i>Jones</i>	1, 3-5, 7, 11-14, and 17	B18
<i>Kucharczyk</i> in combination with one or more of <i>Arneson</i> , <i>Jones</i> , <i>Bradley I</i> , and <i>Bradley II</i>	1, 7, and 13	B19
The OmniTRACS system in combination with one or more of <i>Arenson</i> , <i>Bradley I</i> , <i>Radican</i> , and <i>Loosmore</i> .	1, 3-5, 11, 12, 14, and 17	B20
The SpotON system in combination with one or more of <i>Bradley I</i> , <i>Bradley II</i> , and <i>Loosmore</i>	1, 3-5, 11, 12, and 14	B21

Prior Art	Claims Rendered Obvious	Appendix
<i>Stephenson</i> alone or in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , <i>Radican</i> , and <i>Loosmore</i>	1, 7, 11, 12, and 14	B22
The FedEx Prior Art systems in combination with one or more of <i>Arneson</i> , <i>Bradley I</i> , <i>Radican</i> , and <i>Loosmore</i>	1, 7, 11, 12, and 14	B23

c. '715 Patent

Each of the prior art references identified above in the corresponding anticipation section, by itself, also renders one or more of the asserted claims of the '715 patent obvious under 35 U.S.C. § 103. Additionally, the asserted claims are obvious under 35 U.S.C. § 103 in view of the exemplary combinations of prior art identified in each of the appendices listed below. Suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory or that any particular limitation is missing from a particular reference.

Prior Art	Claims Rendered Obvious	Appendix
<i>Smith</i> in combination with one or more of <i>Bauer</i> , <i>Brown</i> , <i>Loosmore</i> , and <i>Lucas</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C01
<i>Bauer</i> in combination with <i>Smith</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C02
<i>Brown</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C03
<i>Jones I</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C04

Prior Art	Claims Rendered Obvious	Appendix
<i>Jones II</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C05
<i>Fujisawa</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C06
<i>Twitchell</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C07
<i>Sajkowsky</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C08
<i>Tesler</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C09
<i>Loosmore</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C10
<i>Lucas</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C11
<i>Werb</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C12
<i>Ghaffari</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C13
<i>Bolavage</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C14
<i>Krumm</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C15
<i>Gelvin</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C16
<i>Haller</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C17
<i>Tyroler</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C18
<i>Curkendall</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C19

Prior Art	Claims Rendered Obvious	Appendix
<i>Koster</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C20
<i>Sullivan</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25	C21
The OmniTRACS system in combination with one or more of <i>Smith</i> and <i>Bauer</i> .	1, 4, 5, 7, and 9	C22
<i>Stephenson</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 3, 7, 9, 11, 14, 17, and 19	C23
The FedEx Prior Art Systems in combination with one or more of <i>Smith</i> , <i>Bauer</i> , and <i>Stephenson</i>	1, 3, 7, 9, 11, 14, 17, and 19	C24
<i>Kadaba</i> in combination with one or more of <i>Smith</i> and <i>Bauer</i>	1, 3, 7, 9, 11, 14, 17, and 19	C25
The UPS Prior Art Systems in combination with one or more of <i>Smith</i> , <i>Bauer</i> , and <i>Kadaba</i>	1, 3, 7, 9, 11, 14, 17, and 19	C26

d. '581 Patent

Each of the prior art references identified above in the corresponding anticipation section, by itself, also renders one or more of the asserted claims of the '581 patent obvious under 35 U.S.C. § 103. Additionally, the asserted claims are obvious under 35 U.S.C. § 103 in view of the exemplary combinations of prior art identified in each of the appendices listed below. Suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory or that any particular limitation is missing from a particular reference.

Prior Art	Claims Rendered Obvious	Appendix
<i>Rappaport</i> in combination with one or more of <i>Banerjee, Huang, Luo, Mutler, DeLorme, Wright, Khalessi, Alexander, Obradovich, and Rappaport II</i>	1-14, 16-20, 24	D01
<i>Devitt</i> in combination with one or more of <i>Banerjee, Huang, Luo, Mutler, Treyz, DeLorme, Wright, and Obradovich</i>	1-14, 16-20, 24	D02
<i>Bradshaw</i> in combination with one or more of <i>Banerjee, Huang, Luo, Hickman, Mutler, DeLorme, Khalessi, Riggins, and Obradovich</i>	1-14, 16-20, 24	D03
<i>Hickman</i> in combination with one or more of <i>Banerjee, Huang, Luo, Mutler, DeLorme, Khalessi, Wright, and Obradovich</i>	1-14, 16-20, 24	D04
<i>Alexander</i> in combination with one or more of <i>Banerjee, Hickman, Huang, Riggins, Luo, Mutler, DeLorme, Khalessi, Wright, and Obradovich</i>	1-14, 16-20, 24	D05
<i>Treyz</i> in combination with one or more of <i>Devitt, Banerjee, Huang, Riggins, Luo, Mutler, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D06

Prior Art	Claims Rendered Obvious	Appendix
<i>Montlick</i> in combination with one or more of <i>Gildea, Banerjee, Huang, Riggins, Luo, Hickman, Mutler, DeLorme, Khalessi, and Obradovich</i>	1-14, 16-20, 24	D07
<i>Ogasawara</i> in combination with one or more of <i>Banerjee, Gildea, Huang, Luo, Mutler, Treyz, Wright, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D08
<i>Ford</i> in combination with one or more of <i>Banerjee, Hickman, Huang, Riggins, Luo, Mutler, Khalessi, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D09
<i>Stephenson</i> in combination with one or more of <i>Banerjee, Gildea, Mutler, Huang, Riggins, Luo, Khalessi, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D10
SitePlanner System in combination with one or more of <i>Rappaport, Banerjee, Alexander, Mutler, Huang, Riggins, Luo, Khalessi, Wright, Rappaport II, and Obradovich</i>	1-14, 16-20, 24	D11
<i>FedEx Prior Art Systems</i> in combination with one or more of <i>Banerjee, Mutler, Gildea, Huang, Riggins, Luo, Khalessi, Wright, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D12
OmniTRACS System in combination with one or more of <i>Banerjee, Mutler, Gildea, Huang, Riggins, Luo, Khalessi, Wright, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D13
UPS Prior Art Systems in combination with one or more of <i>Banerjee, Mutler, Gildea, Huang, Riggins, Luo, Khalessi, Wright, DeLorme, and Obradovich</i>	1-14, 16-20, 24	D14

e. '586 Patent

Each of the prior art references identified above in the corresponding anticipation section, by itself, also renders one or more of the asserted claims of the '586 patent obvious under 35 U.S.C. § 103. Additionally, the asserted claims are obvious under 35 U.S.C. § 103 in view of

the exemplary combinations of prior art identified in each of the appendices listed below.

Suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory or that any particular limitation is missing from a particular reference.

Prior Art	Claims Rendered Obvious	Appendix
ANSI in combination with FedEx interNetShip	7, 8, 12, 13, 16, 18, and 19	E02
ANSI in combination with FedEx Ship	7, 8, 12, 13, 16, 18, and 19	E03
ANSI in combination with FedEx PowerShip	7, 8, 12, 13, 16, 18, and 19	E04
ANSI in combination with UPS	7, 8, 12, 13, 16, 18, and 19	E05
ANSI in combination with Ett	7, 8, 12, 13, 16, 18, and 19	E06
ANSI in combination with one or more of UPS and Ett	7, 8, 12, 13, 16, 18, and 19	E07
ANSI in combination with one or more of Chandler and <i>Stephenson</i>	7, 8, 12, 13, 16, 18, and 19	E08
Multicode System in combination with ANSI	7, 8, 12, 13, 16, 18, and 19	E10
Multicode System in combination with FedEx interNetShip	7, 8, 12, 13, 16, 18, and 19	E11
Multicode System in combination with FedEx Ship	7, 8, 12, 13, 16, 18, and 19	E12
Multicode System in combination with FedEx PowerShip	7, 8, 12, 13, 16, 18, and 19	E13
Multicode System in combination with one or more of UPS and Ett	7, 8, 12, 13, 16, 18, and 19	E14

Prior Art	Claims Rendered Obvious	Appendix
Multicode System in combination with one or more of Chandler and <i>Stephenson</i>	7, 8, 12, 13, 16, 18, and 19	E15
Coar in combination with ANSI	7, 8, 12, 13, 16, 18, and 19	E16
Coar in combination with Multicode System	7, 8, 12, 13, 16, 18, and 19	E17

2. Obviousness Rationales

As set forth in the provided appendices, given the scope and content of these prior art references, the lack of any substantial differences between these references and the asserted claims, and the level(s) of ordinary skill in the art at the time(s) of the alleged invention(s), it would have been obvious to combine the specified references or any other combination or subset of any specified references. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

a. ’900 Patent

Before January 9, 1998, a person of ordinary skill in the art to which the ’900 patent pertains would have had substantial knowledge relating to information systems, including automated systems for work order assignment and field communication. For example, such a person would have known that computer-based systems, such as those including a mobile unit and a central computing system, were commonly used to communicate with and distribute assignments to workers in the field. One skilled in the art would have known that such systems were used to update databases with assignment information, provide notifications to workers in the field, display data to those workers, and receive information from those workers. Such a person also would have known that these systems commonly included login procedures, enabling the system to verify a worker’s identity based on login information entered by the worker, and

control access to the system based on the verification. Further, one skilled in the art would have known that in such systems, the mobile unit and the central computing system often communicated over networks, such as the Internet or similar networks, where the mobile unit sent, received, and displayed the exchanged information via a web browser or similar interface. For example, the '900 patent admits that such systems and methods existed. *See, e.g.*, '900 patent at 1:18-2:38, 4:13-23, 5:1-6:32.

Combinations of the above features would merely have been: (a) a combination of familiar prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known based on work in one field of endeavor prompting predictable variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art. Moreover, a person of ordinary skill in the art had a motivation to combine these functionalities because—at a minimum—they all pertain to the field of management information systems, including automated systems for work order assignment and field communication. The references above disclosed familiar elements and methods that were well known and could be substituted to obtain predictable results, and thus one of skill in the art would have been motivated to combine or modify references as identified in each of the combinations above and in the appendices, and in other combinations of the many references disclosing various limitations of the asserted claims.

With respect to the combinations of references that render the '900 patent obvious, Defendants further state as follows:

One of ordinary skill in the art would have been motivated to combine *Storch* and *Butler*, which include similar disclosures and are both directed to the same problem of using hand-held mobile devices to assist technicians in the field. More specifically, both *Storch* and *Butler* relate to distributing work order assignments to technicians in the telecommunications service industry. *Storch* teaches a method of distributing work order assignments via a mobile device using an enterprise computing system and a network. *Butler* teaches a similar mobile device as contemplated by *Storch* and for the same purposes (e.g., receiving work order assignments). Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components. Additional support for this combination can be found in Appendix A01.

One of ordinary skill in the art would have been motivated to combine two or more of *Jones*, *Kaman*, *Westerlage*, *Wortham*, *Kadaba*, *Hoshino*, *Stephenson*, OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems. Such a person would have recognized that each prior art reference/system is directed to solving the same problem in the same field (e.g., dispatching and monitoring mobile vehicles generally, including distributing work assignments to mobile workers and communicating with the mobile workers while in the field). Furthermore, these references describe common and similar types of equipment both on the driver/courier-side and on the server-side. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components. Additional support for these combinations can be found in Appendices A02-A09.

One of ordinary skill in the art would have been motivated to combine one or more of *Storch*, *Kaman*, *Westerlage*, *Wortham*, *Kadaba*, *Hoshino*, *Stephenson*, OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems with *Laursen*. Each of these prior art references/systems discloses/includes a mobile device that communicates with a server-side system. *Laursen* discloses that one well-known implementation of such systems included communication between the device and system over a network, such as the Internet, using an HTML browser running HTTP. *Laursen* explains that wireless networks allow mobile devices to access the same information as other computers over wired networks. *See, e.g., Laursen* at 1:38-2:34, 6:57-6:63. Thus, *Laursen* discloses the use of well-known HTML/HTTP techniques to display a wide variety of information to a thin client and/or mobile device over a network such as the Internet. *See, e.g., Laursen* at 2:37-57, 14:29-15:53, Figs. 6-10. It would have been obvious to implement the devices in one or more of *Storch*, *Kaman*, *Westerlage*, *Wortham*, *Kadaba*, *Hoshino*, *Stephenson*, OmniTRACS, the UPS Prior Art Systems, and the FedEx Prior Art Systems using the well-known techniques in *Laursen*, in order to display a user interface using non-proprietary communications and/or HTML/HTTP, e.g., by using the web browser disclosed in *Laursen*. Nothing in the prior art precludes the use of HTML/HTTP or requires the use of a proprietary system, and one skilled in the art would easily recognize that using HTML/HTTP would be simply a matter of design choice. Doing so would allow the technician to use a thin client (as taught by *Laursen*), which would reduce cost and increase compatibility and interchangeability of devices. Additional support for these combinations can be found in Appendices A01-A09.

b. '356 Patent

Before November 3, 2000, a person of ordinary in the art to which the '356 patent pertains would have had substantial knowledge relating to information management, including inventory management using tracking systems. For example, such a person would have known that wireless technologies were commonly used in a tracking applications, including Radio Frequency Identification (RFID), infrared (IR), optical, ultrasound, Global Positioning System (GPS), and Location-Based Services (LBS) tracking systems, among others. Such a person would have also known that systems existed that associated the status of items with the person in possession of the items. Further, such a person would have known that making such associations in real-time was routine and commonplace in tracking systems using wireless technologies. Such a person would have also known that a variety of compatible system architectures could be used to implement inventory management using tracking systems. Such a person would also have known that tracking systems commonly transmitted information between various components of the system as needed based on the system architecture and/or implementation. In addition, such a person would have known that many systems available at the time generated alerts or other user notifications as a result of tracked events, such as an exception type of event or other event of interest to users. A person of ordinary skill would have known that picking up or returning tracked items were basic and necessary tasks for inventory management and control. A person of ordinary skill would have appreciated that these and other techniques were used not only in inventory applications, but similarly used in vehicle, security, and personnel tracking and management applications.

Combinations of the above features of inventory management using tracking systems would merely have been: (a) a combination of familiar prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another

to obtain predictable results; (c) use of a known technique to improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known based on work in one field of endeavor prompting predictable variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art. Moreover, a person of ordinary skill in the art had a motivation to combine these functionalities because—at a minimum—they all pertain to the field of information management using tracking systems, including for the purposes of tracking inventory, personnel, vehicles, and other mobile units or entities, and they all disclose techniques and technology with regard to the same. The references above disclosed familiar elements and methods that were well known and could be substituted to obtain predictable results, and thus one of skill in the art would have been motivated to combine or modify references as identified in each of the combinations above and in the appendices, and in other combinations of the many references disclosing various limitations of the asserted claims.

With respect to the combinations of references that render the '356 patent obvious, Defendants further state as follows:

One of ordinary skill in the art would have been motivated to combine two or more of *Arneson*, *Jones*, *Bradley I*, *Bradley II*, *Loosmore*, *Cowe*, *Teicher*, *Radican*, *Mathias*, *Muhme*, *Card*, *Helms*, *Lucas*, *Ghaffari*, *Belka*, *Mufti*, *Worger*, *Bowers*, *Kucharczyk*, the OmniTRACS system, the SpotON system, *Stephenson*, and the FedEx Prior Art systems, including the exemplary combinations identified above. One of ordinary skill would have recognized that these references and prior art systems contain similar disclosures directed to the same or similar problems found in information management. Indeed, each reference relates to item tracking

and/or order fulfillment systems seeking to address shared business requirements and technical challenges using consistent approaches to inventory management and object tracking.

For example, *Arneson* is generally directed to an electronic inventory system providing various data applications, including location tracking, inventory applications, automated transaction (order fulfillment) applications, and security monitoring. *Arneson* at Abstract, 1:57-2:8, 2:65-3:55, 24:14-21, and 27:6-14. *Jones* generally relates to tracking a vehicle traveling along a delivery route and updates records to “indicate which deliveries have been successfully attempted, which deliveries have been unsuccessfully attempted, and which deliveries remain to be attempted.” *Jones* at 7:45 58. *Bradley I* teaches an automated storage and retrieval inventory system that tracks the location of articles so as to automatically pick-up or return articles being moved among warehouse storage locations to provide order fulfillment. *Bradley I*, 3:27-36, 6:1-8, 20:56-21:6, 22:10-56, 23:22-32. *Bradley II* teaches an automated storage and retrieval inventory system that tracks the location of articles so as to automatically pick-up or return articles being moved among warehouse storage locations to provide order fulfillment. *Bradley II*, Abstract, 5:62-6:15, 8:17-27, 9:63-10:62, 12:55-62, 13:2-8, 20:66-21:8, 21:65-67, and 22:7 21. Likewise, *Loosmoore* teaches a versatile control system for tracking objects and persons, including in electronic inventory applications within a warehouse or factory capable of automatic inventory replenishment. *Loosmoore*, 3:6-21.

Cowe also teaches an inventory monitoring system, including a system that automatically senses the presence and number of items in storage and detects when items are received or withdrawn from inventory. *Cowe*, Abstract. *Teicher* teaches an automated self-service cafeteria system which tracks food items and patrons for automated transactions and inventory replenishment. *Teicher*, Abstract, Fig. 14, 6:26-8:54. *Radican* discloses a container monitoring

system wherein the location and load status of shipping containers becomes monitored from a point a departure to a final destination and return. *Radican*, Abstract, 1:51-2:12. *Mathias* generally relates to a detection system for automated security processes on monitored individuals. *Mathias*, 2:10-45, Fig. 1. *Muhme* similarly teaches an automated security system integrated with an inventory control system for monitoring the location and status of items, persons, and/or containers. *Muhme*, Abstract, Fig. 2, 1:31-2:23. *Card* is generally related to a data manager for interfacing package scanners with a central computer system at a package shipping terminal for tracking the location and disposition of tracked packages arriving on delivery vehicles. *Card*, 2:48-4:42. *Helms* teaches a tracking system for determining the location and load status of hauling vehicles to enable efficient assignment of hauling vehicles to freight loads among a fleet of hauling vehicles. *Helms*, 1:9-17, 2:63-3:39.

Lucas discloses an inventory control system allowing third parties to monitor company inventory via the Internet and automatically order needed items. *Lucas*, Abstract, [007]-[0011]. *Ghaffari* relates to zone-based asset tracking for automatically monitoring the locations of objects by means of marker devices attached to the devices. *Ghaffari*, 1:14-17, 1:50-3:16. *Belka* similarly discloses an article inventory tracking and control system that tracks and controls the movement of articles into and out of a secured facility. *Belka* 1:59-2:8, Fig. 1. *Mufti* also teaches a system for providing a “personal locator, access control and asset tracking service.” *Mufti*, Abstract, 3:3-4:37. *Worger* discloses an asset tracking system for tracking “working assets,” such as vehicle fleet inventories, to improve tracking, security, and efficient use of the working assets. *Worger*, Abstract, 2:48-3:24. *Bowers* also discloses an inventory system for tracking articles, allowing automated transactions and additional security features. *Bowers*, 1:65-5:46. *Kucharczyk*

similarly describes a system for secure, unattended delivery/pickup of goods that includes a locking mechanism that secures access to the goods. *Kucharczyk*, 2:6-3:34.

The OmniTRACS system is an interactive information management system that includes two-way mobile communications, satellite tracking and fleet management software for tracking and monitoring drivers and vehicles. OmniTRACS, Products and Technology, System Overview (Feb. 11, 1998), <http://www.omnitracs.com/OmniTRACS/products/system.html> [<https://web.archive.org/web/19980211122129/http://www.omnitracs.com/OmniTRACS/products/system.html>] (“*OmniTRACS*”). The SpotON system monitors the location and movement of users and objects in a tracked environment using RF wireless and motion sensing technologies. Jeffrey Hightower et al., *SpotON: An Indoor 3D Location Sensing Technology Based on RF Signal Strength* 1-16 (2000). *Stephenson* discloses an integrated data collection and transmission system and method for collecting and transmitting data related to package delivery. *Stephenson*, 2:23-3:20. Finally, the FedEx Prior Art systems relate to dispatching and monitoring mobile vehicles generally, including distributing work assignments to mobile workers and communicating with the mobile workers while in the field.

These references also describe common types of equipment and information management techniques, such as general purpose computer, memory, data structures, autonomous devices/vehicles, unique identification of tracked items, controlled spaces, etc. used to track, transport, and/or facilitate the exchange of items. *See, e.g., Arneson*, 7:50-8:11, 30:39-59; *Jones*, 4:7-49, 4:20-25; *Bradley I*, 6:1-8, 4:20-25; *Bradley II*, 20:32-51, *Loosmore*, 3:40-45, 5:50-7:46, *Cowe*, Abstract, Fig. 4, 2:41-48; *Teicher*, Abstract, Fig. 14, 6:26-8:54 *Radican*, Abstract, Fig. 2; *Mathias*, 2:10-45, Fig. 1; *Muhme*, Abstract, Fig. 3; *Card*, 2:48-4:42; *Helms*, 1:9-17, 2:63-3:39, Fig. 6; *Lucas*, Abstract, [007]-[0011], Figs. 1-2; *Ghaffari*, 1:14-17, 1:50-3:16; *Belka* 1:59-2:8,

Fig. 1; *Mufti*, Abstract, 3:3-4:37; *Worger*, Abstract, 2:48-3:24; *Bowers*, 1:65-5:46; *Kucharczyk*, 2:6-3:34, Fig. 5; *OmniTRACS*; *Stephenson*, 2:23-3:20, Figs. 1-2. Thus, a person of ordinary would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One skilled in the art would therefore have found it obvious and would have been motivated to combine two or more of *Arneson*, *Jones*, *Bradley I*, *Bradley II*, *Loosmore*, *Cowe*, *Teicher*, *Radican*, *Mathias*, *Muhme*, *Card*, *Helms*, *Lucas*, *Ghaffari*, *Belka*, *Mufti*, *Worger*, *Bowers*, *Kucharczyk*, the *OmniTRACS* system, the *SpotON* system, *Stephenson*, and the *FedEx* Prior Art systems because each reference and system involve the same or similar problems found in information management associated with tracking systems. Indeed, because the above references and prior art systems track objects and/or persons in similar environments using complementary and/or redundant technologies, one skilled in the art would have readily combined two or more of the above references and systems to create a system providing versatile tracking services having inventory applications that use the teachings briefly described above and provided in detail in Appendices B01-B23. Moreover, a person skilled in the art would be motivated to combine two or more of *Arneson*, *Jones*, *Bradley I*, *Bradley II*, *Loosmore*, *Cowe*, *Teicher*, *Radican*, *Mathias*, *Muhme*, *Card*, *Helms*, *Lucas*, *Ghaffari*, *Belka*, *Mufti*, *Worger*, *Bowers*, *Kucharczyk*, the *OmniTRACS* system, the *SpotON* system, *Stephenson*, and the *FedEx* Prior Art systems because of their disclosed improvements in accuracy and efficiency in, *inter alia*, secure inventory management or order fulfillment.

The appendices relating to the '356 patent also provide exemplary combinations of the above prior art and motivations for those exemplary combinations.

c. '715 Patent

Before March 1, 2005, a person of ordinary in the art to which the '715 patent pertains would have had substantial knowledge relating to tracking systems, including those used for tracking inventory, personnel, vehicles, and other mobile units or entities. For example, such a person would have known that wireless technologies were commonly used in tracking applications, including Radio Frequency Identification (RFID), infrared (IR), optical, ultrasound, Global Positioning System (GPS), and Location-Based Services (LBS) tracking systems, among others. Such a person would have also known that a variety of system architectures could be used to implement inventory management using tracking systems. Such a person would also have known that tracking systems commonly store information received from the mobile devices associated with, and often attached, to items being tracked. A person of ordinary skill would have also known that database population and modification was well known and implemented in existing tracking systems. A person of ordinary skill would have appreciated that tracking systems were used not only in inventory applications, but similarly used in vehicle, security, and personnel tracking and management applications.

Combinations of the above features of inventory management using tracking systems would merely have been: (a) a combination of familiar prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known based on work in one field of endeavor prompting predictable variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art. Moreover, a person of ordinary skill in the art had a motivation to combine these

functionalities because—at a minimum—they all pertain to the field of tracking systems, including for the purposes of tracking inventory, personnel, vehicles, and other mobile units or entities, and they all disclose techniques and technology with regard to the same. The references above disclosed familiar elements and methods that were well known and could be substituted to obtain predictable results, and thus one of skill in the art would have been motivated to combine or modify references as identified in each of the combinations above and in the appendices, and in other combinations of the many references disclosing various limitations of the asserted claims.

With respect to the combinations of references that render the '715 patent obvious, Defendants further state as follows:

One of ordinary skill in the art would have been motivated to combine *Smith* with one or more of *Bauer*, *Brown*, *Loosmore*, and *Lucas*. Such a person would have recognized that *Smith* is generally directed to inventory management and asset monitoring including “adjust[ing] the supply chain by adjusting the handling of the products during the supply chain as a function of the modified information in the database.” *See Bauer* 9:48-60; 11:1-15; 15:30-40; 36:8-19; 36:49-51; 36:55-67; and 37:3-23; *Brown* 2:22-35; *Loosmore* 9:10-16; and *Lucas* ¶ [0082]. Like *Smith*, each of the other references relates to inventory management and asset monitoring. Furthermore, these references describe common types of equipment, such as databases, and methods for monitoring inventory. *See, e.g., Bauer* 9:55-60, 15:30-40, and 36:10-19; *Brown* 3:7-29; *Loosmore* 8:42-9:17; and *Lucas* ¶ [0083]. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Bauer* with *Smith* or others. Such a person would have recognized that *Bauer* is generally directed to inventory management and asset monitoring. Like *Bauer*, *Smith* relates to tracking objects through a business process. Furthermore, these references describe common types of equipment, such as RFID tags, RFID readers, databases, and tag reading points through a business process. *See, e.g., Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Brown* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Brown* is generally directed to tracking assets. *See Brown*, 2:7-20; 3:17-29; and 5:63-6:2. Like *Brown*, each of the other references relates to tracking RFID tags associated with assets. Furthermore, these references describe common types of equipment, such as RFID tags, RFID readers, and databases. *See, e.g., Brown*, 2:7-20; 3:17-29; and 5:63-6:2; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Jones* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Jones* is generally directed to tracking assets. *See Jones I*, 4:7-19; 11:23-27; 12:55-60; 13:64-14:1; 29:66-30:5; 33:39-34:4; Figure 11; and Figure 29. Like *Jones I*, each of the other references relates to tracking RFID tags associated with assets. Furthermore, these references describe common types of equipment, such

as RFID tags, RFID readers, and databases. *See, e.g., Jones I*, Figure 7; Figure 8; Figure 9; and Figure 10; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Jones II* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Jones II* is generally directed to tracking assets. *See Jones II*, 4:38-48; 5:36-48; 12:14-30; 15:35-16:15; and 18:3-20. Like *Jones II*, each of the other references relates to tracking RFID tags associated with assets. Furthermore, these references describe common types of equipment, such as RFID tags, RFID readers, and databases. *See, e.g., Jones II*, 2:1-2; 4:7-22; 4:38-42; 7:20-26; 7:29-35; 7:38-61; 8:16-41; 13:24-14:3; 17:9-17; 17:32-41; 18:3-19:40; and Figure 1; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Fujisawa* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Fujisawa* is generally directed to product tracking logistics including “[having] a processor responsive to the reader for storing in the database information corresponding to the reading of each tag.” *See Smith* 7:13-32; 11:15-32; 24:18-30; 25:32-40; Figure 4 and Figure 14; and *Bauer*, 6:1-37; 7:50-8:7; 9:36-58; 12:37-45; 13:63-67; 22:2-7; 34:3-7; and Figure 2. Like *Fujisawa*, each of the other references relates to tracking assets. Furthermore, these references describe common types of equipment, such as RFID tags, RFID readers, and databases, as well as methods for tracking objects. *See,*

e.g., *Fujisawa*, 7:47-52; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Twitchell* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Twitchell* is generally directed to item, product, and merchandise inventorying and tracking including “using the information in the database to identify at least one problematic portion of the supply chain having a relatively high level of errors in reading tags.” *See Smith* 27:25-36; 27:60-28:37; 31:14-33; and Figure 25; *Bauer*, 4:12-14; 17:9-11; 17:33-36; and 25:4-45. Like *Twitchell*, each of the other references relates to tracking assets. Furthermore, these references describe common types of equipment, such as RFID tags, RFID readers, and databases, as well as methods for tracking objects. *See, e.g.*, *Twitchell*, 7:43-47; 8:1-7; 30:25-30; 30:52-57; 30:61-65; and 31:7-20; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Sajkowsky* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Sajkowsky* is generally directed to tracking product tags throughout a distribution process. *See Sajkowsky*, 13:19-33. Like *Sajkowsky*, each of the other references relates to tracking tags associated with assets. Furthermore, these references describe common types of equipment, such as RF technology, containers, and databases. *See, e.g.*, *Sajkowsky*, 15:25-33; and 16:15-19; *Bauer*,

1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Tesler* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Tesler* is generally directed to accurately tracking tags throughout various facilities and business processes. *See Tesler*, 4:11-16; 4:55-5:60; Figure 2; and Figure 4. Like *Tesler*, each of the other references relates to inventory monitoring and tracking. Furthermore, these references describe common types of equipment, such as tracking technology, databases, and assets. *See, e.g., Tesler*, 7:62-8:10; 8:40-51; and 9:1-32; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Loosmore* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Loosmore* is generally directed to tracking employee tags through the facility. *See Loosmore*, 3:23-31; and 5:55-60. Like *Loosmore*, each of the other references relates to asset monitoring. Furthermore, these references describe common types of equipment, such as tracking technology, tracking tags, tracking nodes, and databases. *See, e.g., Loosmore*, 3:23-31; and 5:55-60; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Lucas* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Lucas* is generally directed to tracking asset RFID tags through the facility. *See Lucas*, ¶ [0023]; and Figure 5. Like *Lucas*, each of the other references relates to product tracking logistics. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Lucas*, ¶ [0072]; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Werb* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Lucas* is generally directed to analyzing tag accuracy in location readings. *See Werb*, 1:47-55; and 12:17-64. Like *Werb*, each of the other references relates to asset tracking logistics. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Werb*, 12:56-64; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Ghaffari* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Ghaffari* is generally directed to monitoring RFID tag assets throughout a business process and facility. *See Ghaffari*, 1:50-54; 11:5-27; 16:9-17; 20:9-27; 25:34-43; Figure 1; Figure 3; Figure 4; Figure 13; Figure 14; Figure 16A-B; Figure 17A-B; Figure 18C; Figure 19A-C; and Figure 20. Like *Ghaffari*, each of

the other references relates to tracking assets throughout a controlled facility. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Ghaffari*, 23:58-25:9; 26:4-49; and Figure 24; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Bolavage* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Bolavage* is generally directed to locating distributed assets with monitoring technology. *See Bolavage*, 8:53-57; 11:1-20; 11:29-45; 12:8-20; and Figure 1. Like *Bolavage*, each of the other references relates to tracking assets and identification systems. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Bolavage*, Figure 1; and Figure 2; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Krumm* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Krumm* is generally directed to badge tag location technology. *See Krumm*, 2:66-3:67; 4:20-5:16; 15:53-16:67; Figure 1; and Figure 2. Like *Krumm*, each of the other references relates to RF identification systems. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Krumm*, 4:53-5:16; 7:14-25; 13:55-14:15; 14:60-15:50; 16:22-40; 21:21-22:51; Figure 6; and Figure 8A-B; *Bauer*, 1:17-21; 2:31-51; 4:12-14;

19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Gelvin* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Gelvin* is generally directed to network sensor data collection, including RFID data. *See Gelvin*, 6:47-62; 19:40-50; 19:65-20:18; 38:30-45; 43:60-44:2; 60:54-61:31; 62:1-63:52; and 64:1-67:45. Like *Gelvin*, each of the other references relates to integrating data collection from network sensors. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Gelvin*, 7:1-3; 33:37-34:36; 66:13-19; 70:11-22; Figure 21; Figure 26; Figure 37; and Figure 38A-B; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Haller* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Haller* is generally directed to reading tags at several successive points along a business process. *See Haller*, 3:3-23; 15:5-30; 16:7-18:27; Figure 1; Figure 2; and Figure 4. Like *Haller*, each of the other references relates to communicating data between transported objects throughout a distribution process. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Haller*, 3:3-23; 15:5-30; 16:7-18:27; Figure 1; Figure 2; and Figure 4; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the

references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Tyroler* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Tyroler* is generally directed to tracking, presence verification, and locating features incorporated into a security system. *See Tyroler*, 5:32-51; 8:6-33; 8:55-65; Figure 1; Figure 3; and Figure 6. Like *Tyroler*, each of the other references relates to monitoring and tracking RF tags. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Tyroler*, 5:32-51; 8:6-33; 8:55-65; Figure 1; Figure 3; and Figure 6; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Curkendall* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Curkendall* is generally directed to tracking processing events for a meat animal facility, including the entire processing chain from grazing to packaging. *See Curkendall*, ¶¶ [0003]; [0006]; [0011]; [0180]; [0184]; [0331]; and Figure 7. Like *Curkendall*, each of the other references relates to integrating data collection from multiple RFID reader locations. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Curkendall*, ¶¶ [0003]; [0006]; [0011]; [0180]; [0184]; [0331]; and Figure 7; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-

17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Koster* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Koster* is generally directed to tracking drugs through a business process and facility. *See Koster*, ¶ [0031]; Figure 1; and Figure 4. Like *Koster*, each of the other references relates to tracking goods within a controlled environment. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Koster*, ¶¶ [0009]-[0012]; [0036]; [0046]; [0049]; [0051]; [0052]; [0056]; [0059]; [0061]; Figure 4; Figure 7; and Figure 8; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Sullivan* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Sullivan* is generally directed to associating products with RF tags. *See Sullivan*, ¶¶ [0003]-[0006]; [0032]-[0036]; [0058]; [0069]; [0073]; [0087]; Figure 1; Figure 2; Figure 3; Figure 4; and Figure 9. Like *Sullivan*, each of the other references relates to tracking RFID sensors. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Sullivan*, ¶¶ [0003]-[0006]; [0032]-[0036]; [0058]; [0069]; [0073]; [0087]; Figure 1; Figure 2; Figure 3; Figure 4; and Figure 9; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine OmniTRACS with one or more of *Smith* and *Bauer*. Such a person would have recognized that OmniTRACS is generally directed to tracking packages associated with RFID tags. *See* Appendix C22. Like OmniTRACS, each of the other references relates to tracking packages with RFID technology. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g.,* Appendix C22; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Stephenson* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Stephenson* is generally directed to tracking packages associated with RFID tags. *See Stephenson*, 5:1-36; 8:45-66; 9:29-42; 10:54-64; 11:3-12:15; 12:20-36; Figure 1; Figure 6; and Figure 9. Like *Stephenson*, each of the other references relates to tracking goods within a controlled environment. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g., Stephenson*, 2:37-46; 5:1-36; 8:45-66; 9:29-42; 10:54-64; 11:3-12:15; 12:20-36; 12:56-13:15; Figure 1; Figure 6; and Figure 9; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine the FedEx Prior Art Systems with one or more of *Smith* and *Bauer*. Such a person would have recognized that the FedEx Prior Art Systems are generally directed to tracking packages associated with RFID tags.

See Appendix C24. Like the FedEx Prior Art Systems, each of the other references relates to tracking goods within a controlled environment. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. See, e.g., Appendix C24; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine *Kadaba* with one or more of *Smith* and *Bauer*. Such a person would have recognized that *Kadaba* is generally directed to tracking packages associated with RFID tags. See *Kadaba*, 2:21-3:39; 4:33-49; 5:13-21; 5:55-6:30; 7:43-62; Figure 1; Figure 2; Figure 3; and Figure 6. Like *Kadaba*, each of the other references relates to tracking goods within a controlled environment. Furthermore, these references describe common types of equipment, such as tracking tags, tracking nodes, and databases. See, e.g., *Kadaba*, 2:47-54; 3:8-23; 5:35-41; 6:10-30; 7:5-16; 7:62-8:16; and Figure 3; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

One of ordinary skill in the art would have been motivated to combine the UPS Prior Art Systems with one or more of *Smith* and *Bauer*. Such a person would have recognized that the UPS Prior Art Systems are generally directed to tracking packages associated with RFID tags. See Appendix C26. Like the UPS Prior Art Systems, each of the other references relates to tracking goods within a controlled environment. Furthermore, these references describe common

types of equipment, such as tracking tags, tracking nodes, and databases. *See, e.g.*, Appendix C26; *Bauer*, 1:17-21; 2:31-51; 4:12-14; 19:44-20:16; 29:33-39; and 40:19-37; *Smith*, 2:11-13; 4:25-30; 6:49-59; 7:16-17; 8:20-37; and 12:13-30. Thus, such a person would have appreciated that the references are directed to the same or similar fields of endeavor and involve similar types of components.

The appendices relating to the '715 patent also provide exemplary combinations of the above prior art and motivations for those exemplary combinations.

d. '581 Patent

Before September 18, 2000, a person of ordinary skill in the art to which the '581 patent pertains would have had substantial knowledge relating to systems and methods for managing mobile assets (such as personnel, equipment, and inventory) in the field via handheld devices. For example, such a person would have known that computer-based systems, such as those including a handheld device located in the field and a geographically remote computing device, were commonly used to collect and communicate data from the field. One skilled in the art would have known that such systems often employed well-known technologies, such as wireless communication and GPS, to determine a location of the handheld device and report that location back to the remote computing device along with other data collected at the location. Such a person also would have known that these systems commonly utilized well-known wireless communication techniques to communicate the data between the handheld device and the computing system. Such a person also would have known that these techniques were implemented in several fields, including, e.g., those involving package tracking and/or delivery, asset monitoring, retail shopping, field surveying, etc. Such a person further would have known that determining the position of a handheld device using the handheld device was well known

and implemented in such fields. Finally, such a person would also have known that accessing and/or downloading programs from remote computing systems was well known and implemented in these fields. For example, the '581 patent admits that such systems and methods existed. *See, e.g.*, '581 patent at 1:35-2:40, 5:50-6:67, 7:12-20, 8:8-12

Combinations of the above features would merely have been: (a) a combination of familiar prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known based on work in one field of endeavor prompting predictable variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art. Moreover, a person of ordinary skill in the art had a motivation to combine these functionalities because—at a minimum—they all pertain to the field of management information systems, including systems and methods for managing mobile assets (such as personnel, equipment, and inventory) and collecting data from users in the field via handheld devices. The references above demonstrate that the prior art disclosed familiar elements and methods that were well known and could have been substituted to obtain predictable results, and thus one of skill in the art would have been motivated to combine or modify references as identified in each of the combinations above and in the appendixes, and in other combinations of the many references disclosing various limitations of the asserted claims.

With respect to the combinations of references that render the '581 patent obvious, Defendants further state as follows:

One of ordinary skill in the art would have been motivated to combine *Rappaport* with one or more of *Banerjee*, *Huang*, *Luo*, *Mutler*, *DeLorme*, *Wright*, *Khalessi*, *Alexander*, *Obradovich*, and *Rappaport II*. Such a person would have recognized that *Rappaport* is generally directed to measuring, modeling, and optimizing wireless networks using a handheld device and a remote computer. *See, e.g., Rappaport*, Abstract, 1:9-18, 1:64-2:20, 2:57-3:12, 4:41-5:30. Like *Rappaport*, each of the other references involves commonplace operability for handheld devices, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Rappaport*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Devitt* with one or more of *Banerjee*, *Huang*, *Luo*, *Mutler*, *Treyz*, *DeLorme*, *Wright*, and *Obradovich*. Such a person would have recognized that *Devitt* is generally directed to providing users of handheld devices with a client application that interfaces with a remote computer to provide location-based information about nearby businesses and “activity sites.” *See, e.g., Devitt*, Abstract, Figs. 1-13, 1:6-26; 2:65-5:19; 5:56-6:10; 8:57-9:25. Like *Devitt*, each of the other references involves

commonplace operability for handheld devices, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Devitt*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Bradshaw* with one or more of *Banerjee*, *Huang*, *Luo*, *Hickman*, *Mutler*, *DeLorme*, *Khalessi*, *Riggins*, and *Obradovich*. Such a person would have recognized that *Bradshaw* is generally directed to a laser survey instrument with a handheld data collector that interfaces with a remote computer for conducting field surveys and collecting data for geographic information system (GIS) maps. *See, e.g., Bradshaw*, Abstract, Figs. 1-7, 1:5-15, 3:24-4:63, 5:37-15:17, claims 1-14. Like *Bradshaw*, each of the other references involves commonplace operability for handheld devices such as the data collector in *Bradshaw*, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory

data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Bradshaw*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Hickman* with one or more of *Banerjee*, *Huang*, *Luo*, *Mutler*, *DeLorme*, *Khalessi*, *Wright*, and *Obradovich*. Such a person would have recognized that *Hickman* is generally directed to systems and methods for managing distributed assets (e.g., electric power transmission assets) using field units and a remote computer running a GIS database. *See, e.g., Hickman*, Abstract, Figs. 1-3, 9, 3:8-24, 3:40-46, 5:61-7:54, 8:8-9:30, 9:60-10:28, 10:49-11:30. Each of the other references involves commonplace operability for handheld devices like the field unit of *Hickman*, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Hickman*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than

a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Alexander* with one or more of *Banerjee*, *Hickman*, *Huang*, *Riggins*, *Luo*, *Mutler*, *DeLorme*, *Khalessi*, *Wright*, and *Obradovich*. Such a person would have recognized that *Alexander* is generally directed to a Geographic Data Manager (GDM) handheld device for field surveying and communicating data to a remote computer. *See, e.g., Alexander*, Abstract, Figs. 1-21, 1:1-4:3. Each of the other references involves commonplace operability for handheld devices that could readily be incorporated into the GDM of *Alexander*, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references describe common types of equipment, including handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references with the GDM handheld device of *Alexander* because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Treyz* with one or more of *Devitt*, *Banerjee*, *Huang*, *Riggins*, *Luo*, *Mutler*, *DeLorme*, and *Obradovich*. Such a person would have recognized that *Treyz* is generally directed to a system that provides users of handheld computing devices with shopping assistance services. *See, e.g., Treyz*, Abstract, Figs. 1-118, 1:5-10:33, 11:28-13:58, 15:3-21:60, 23:26-67:28, claims 1-21. Each of the other references involves commonplace operability for handheld devices like the field unit of *Treyz*, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Treyz*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Montlick* with one or more of *Gildea*, *Banerjee*, *Huang*, *Riggins*, *Luo*, *Hickman*, *Mutler*, *DeLorme*, *Khalessi*, and *Obradovich*. Such a person would have recognized that *Montlick* is generally directed to systems and methods for providing wireless remote information retrieval using pen-based handheld computers and a central computer system. *See, e.g., Montlick*, Abstract, Figs. 1-8b, 1:11-5:48. Each of the other references involves commonplace operability for handheld devices,

including the pen-based handheld computers of *Montlick*. These features include remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Montlick*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Ogasawara* with one or more of *Banerjee*, *Gildea*, *Huang*, *Luo*, *Mutler*, *Treyz*, *Wright*, *DeLorme*, and *Obradovich*. Such a person would have recognized that *Ogasawara* is generally directed to electronic shopping systems and methods of using a wireless telephone or videophone in conjunction with a purchase transaction program and a remote computer to facilitate consumer shopping. *See, e.g., Ogasawara*, Abstract, Figs. 1-7, 10-14, ¶¶ 2-20, 37, 39, 41-43, 46, 48-70, 74, 82-89, 91-111, 113-114, 116-127, 130-141, 147-149, 152-153; Claims 1-48. Each of the other references involves commonplace operability for handheld devices like the wireless telephone or videophone of *Ogasawara*. These features include remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory

data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Ogasawara*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Ford* with one or more of *Banerjee*, *Hickman*, *Huang*, *Riggins*, *Luo*, *Mutler*, *Khalessi*, *DeLorme*, and *Obradovich*. Such a person would have recognized that *Ford* is generally directed to systems and methods of surveying using a mobile field unit to capture speech data with location data in order to create a geographic information system (GIS) database with a central computer. *See, e.g., Ford*, Abstract, 1:9-13, 2:6-25, 4:34-53, 4:59-5:51. Each of the other references involves commonplace operability for handheld devices like the mobile field unit of *Ford*. These features include remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Ford*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than

a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine *Stephenson* with one or more of *Banerjee*, *Gildea*, *Mutler*, *Huang*, *Riggins*, *Luo*, *Khalessi*, *DeLorme*, and *Obradovich*. Such a person would have recognized that *Stephenson* is generally directed to FedEx systems using handheld devices for collecting package data and interfacing with a remote computing system. These systems include Customer Operations Service Master On-Line System (“COSMOS”), FedEx Digitally Assisted Dispatch System (“DADS”), FedEx Supertracker, FedEx Enhanced Supertracker, FedEx DADS Terminal, FedEx DADS Handheld, and FedEx PowerPad. *See, e.g., Stephenson*, Abstract, Figs. 1-12, 1:5-12:55, claims 1-43. Each of the other references involves commonplace operability for handheld devices like the handheld devices of *Stephenson*. These features include remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like *Stephenson*, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining

known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine the SitePlanner System with one or more of *Banerjee, Alexander, Mutler, Huang, Riggins, Luo, Khalessi, Wright, Rappaport II*, and *Obradovich*. Such a person would have recognized that the SitePlanner System is generally directed to measuring, modeling, and optimizing wireless networks using a handheld device and a remote computer. *See, e.g.*, Appendix D11; *see also, Rappaport*, Abstract, 1:9-18, 1:64-2:20, 2:57-3:12, 4:41-5:30. Like the SitePlanner System, each of the other references involves commonplace operability for handheld devices, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references, like the SitePlanner System, describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine the FedEx Prior Art Systems with one or more of *Banerjee, Mutler, Gildea, Huang, Riggins, Luo, Khalessi, Wright, DeLorme*, and *Obradovich*. Such a person would have recognized that the FedEx Prior

Art Systems are generally directed to FedEx systems using handheld devices for collecting package data and interfacing with a remote computing system. These systems include Customer Operations Service Master On-Line System (“COSMOS”), FedEx Digitally Assisted Dispatch System (“DADS”), FedEx Supertracker, FedEx Enhanced Supertracker, FedEx DADS Terminal, FedEx DADS Handheld, and FedEx PowerPad. *See, e.g.,* Appendix D12; *see also* *Stephenson*, Abstract, Figs. 1-12; 1:5-12:55, claims 1-43. Each of the other references involves commonplace operability for handheld devices like those in the FedEx Prior Art Systems, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references with the *FedEx Prior Art Systems* because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

One of ordinary skill in the art also would have been motivated to combine the OmniTRACS System with one or more of *Banerjee*, *Mutler*, *Gildea*, *Huang*, *Riggins*, *Luo*, *Khalessi*, *Wright*, *DeLorme*, and *Obradovich*. Such a person would have recognized that the OmniTRACS System is generally directed to an interactive information management system that includes two-way mobile communications, satellite tracking and fleet management software for

managing fleet vehicles using mobile terminals. *See, e.g.*, Appendix D13. Each of the other references involves commonplace operability for handheld devices like the mobile terminal of the OmniTRACS System, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references with the OmniTRACS System because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

Finally, one of ordinary skill in the art also would have been motivated to combine the UPS Prior Art Systems with one or more of *Banerjee, Mutler, Gildea, Huang, Riggins, Luo, Khalessi, Wright, DeLorme, and Obradovich*. Such a person would have recognized that the UPS Prior Art Systems are generally directed to UPS systems using handheld devices for collecting package data and interfacing with a remote computing system. These systems include the Delivery Information Acquisition Device (“DIAD”) and/or the UPS systems with which the DIAD communicates. *See, e.g.*, Appendix D14; *see also Kadaba II* (describing UPS Prior Art Systems) at Abstract, 1:23-39, 2:21-3:63, 4:33-5:55, 5:56-9:61, Figs. 1, 3, 4A-10B. Each of the other references involves commonplace operability for handheld devices like those in the UPS

Prior Art Systems, including remote access to computers and computer programs; downloading applications from remote computers to a handheld device; accessing remote storage servers from a handheld device; accessing specific programs having inventory data, task distribution data, and navigation features; and synchronizing data between a handheld device and a computer.

These references describe common types of equipment, such as handheld devices, computers, databases, and methods for managing data. One of ordinary skill in the art would have been motivated to combine these references with the UPS Prior Art Systems because doing so would be no more than a simple and straightforward implementation of known techniques well within the knowledge of a skilled artisan. Doing so also would have been nothing more than combining known elements to yield a predictable result. Additional support for these combinations can be found in Appendices D01-D14.

e. '586 Patent

A person of ordinary skill in the art to which the '586 patent pertains would have been familiar with the standardized bar code symbologies in use at the time of the '586 patent. In particular, such a person would have been familiar with ANSI's efforts to standardize bar code symbologies. Indeed, the '586 patent expressly admits as prior art "[c]ommon standardized 1D and 2D bar code formats include Code 39, Code 128, Interleaved 2 of 5, or PDF 417." '586 patent at 4:36-38. Accordingly, one skilled in the art would have been familiar with and understood standardized bar code formats, including how to encode data in the standardized bar code formats, how to encode data using bar code font, and include the bar codes in electronic documents.

Furthermore, a person of ordinary skill in the art would have been familiar with and understood the components involved in a computerized shipping system. Computerized shipping

systems were around and well-known for many years prior to the time of the '586 patent. *See, e.g., Computerized Shipping Systems* at 7-9. For example, one of ordinary skill in the art would have known that a “basic” computerized shipping system would consist of a “computer, . . . label printer and report printer. . . . A modem is usually utilized for transmitting to and receiving data from the carrier. A bar code scanner can be utilized to input a work order number or package identification number.” *Id.* Thus, one of ordinary skill in the art would have known that a basic computerized shipping system could be utilized to perform operations for data interchange.

Prior to the '586 patent, there were several commercial shipping systems that were widely available to small businesses and consumers. A person of ordinary skill in the art would have been familiar with the computerized shipping systems provided by the leading shipping companies including FedEx *interNetShip System*, FedEx *PowerShip System*, FedEx *Ship System*, RPS *Multicode System*, and UPS's shipping system(s), which had already been in use for several years prior to the '586 patent. These shipping systems were used to print shipping labels with standardized linear bar codes and two-dimensional bar codes, such as Code 39 and MaxiCode, respectively. A person of ordinary skill would have known that the commercial shipping systems that existed prior to the '586 patent, such as RPS's *Multicode System* and UPS's shipping system, printed a linear bar code and a two-dimensional bar code on one shipping label. *See, e.g., Multicode Guide* at 12; *UPS Guide* at 14.

Combinations of the above features of using a computerized shipping system and its various components or a commercial shipping system to encode shipping data into standardized bar codes and decode such data would merely have been: (a) a combination of familiar prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to

improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known based on work in one field of endeavor prompting predictable variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art. Moreover, a person of ordinary skill in the art had a motivation to combine these functionalities because—at a minimum—they all pertain to the field of bar code generation, encoding information into bar codes using standardized formats, using a computer system to generate a shipping label that contains bar codes, and they all disclose techniques and technology with regard to the same. The references above disclosed familiar elements and methods that were well known and could be substituted to obtain predictable results, and thus one of skill in the art would have been motivated to combine or modify references as identified in each of the combinations above and in the appendices, and in other combinations of the many references disclosing various limitations of the asserted claims.

With respect to the combinations of references that render the '586 patent obvious, Defendants further state as follows:

One skilled in the art would have found it obvious and straightforward to combine *ANSI* with one or more of any of the following the *interNetShip System*, the *FedEx Ship System*, the *PowerShip System*, *UPS*, *Ett*, *Chandler*, *Stephenson*, the *Multicode System*, or *Coar*. Each of these references teaches a computerized shipping system with the basic components that would have been known to one of ordinary skill in the art and the use of bar codes on shipping labels. It would have been obvious to one of ordinary skill in the art to employ the systems taught in any

of these references to create, print, and scan the standardized liner and two-dimensional bar codes taught in *ANSI*. Such a combination would have merely yielded predictable results.

One skilled in the art would have found it obvious and straightforward to combine the *Multicode System* with one or more of any of the following *ANSI*, the *interNetShip System*, the *FedEx Ship System*, the *PowerShip System*, *UPS*, *Ett*, *Chandler*, *Stephenson*, or *Coar*. Each of these references teaches a computerized shipping system with the basic components that would have been known to one of ordinary skill in the art and the use of bar codes on shipping labels. It would have been obvious to one of ordinary skill in the art to employ the systems taught in any of these references to create, print, and scan the standardized liner and two-dimensional bar codes taught in the *Multicode System*. Such a combination would have merely yielded predictable results.

One skilled in the art would have found it obvious and straightforward to combine the *Multicode System* with one or more of any of the following *ANSI*, the *interNetShip System*, the *FedEx Ship System*, the *PowerShip System*, *UPS*, *Ett*, *Chandler*, *Stephenson*, or *Coar*. Each of these references teach the basic components of a computerized shipping system and the use of bar codes on shipping labels, which would have been known to one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art to employ the systems taught in any of these references to create, print, and scan the standardized liner and two-dimensional bar codes taught in the *Multicode System*. Such a combination would have merely yielded predictable results.

One skilled in the art would have found it obvious and straightforward to employ the system taught in *Coar* to create and print the bar codes and labels disclosed in *ANSI*, the *Multicode System*, the *interNetShip System*, the *FedEx Ship System*, the *PowerShip System*, *UPS*,

Ett, or *Chandler*. Such a combination would have merely yielded predictable results. In addition, because *Coar* and many of these references involve bar codes encoding data identifiers and data elements, one skilled in the art would have found it obvious and straightforward to combine the teachings of *Coar* with any of these references, and combining these teachings would have merely yielded predictable results. Moreover, *Coar* and many of these references teach using linear and/or two-dimensional barcodes (specifically PDF417) on one shipping label. Therefore, one skilled in the art would have been motivated to combine these references because they teach using a computerized shipping system to print standardized bar codes.

The appendices relating to the '586 patent provide exemplary combinations of the above prior art and motivations for those exemplary combinations.

D. Additional Prior Art / State of the Art

The prior art references and systems identified above, and the additional prior art references and systems identified in Appendix F, are evidence of the state of the art, the scope and content of the prior art, the level of skill in the art, contemporaneous invention of the patented technology, and/or include teachings, suggestions, and motivations to modify or combine the prior art discussed above, as of the time of the alleged invention of the asserted claims.

To the extent that Plaintiff contends that any prior art does not disclose a limitation of one or more asserted claims, Defendants may rely on any combination of the prior art disclosed in these invalidity contentions (in addition to the combinations disclosed above), the knowledge of those skilled in the art, and/or other prior art to show that it would have been obvious to include the allegedly missing limitation. Such other prior art may include the patents, publications and systems listed above and in Appendix F.

Defendants also incorporate by reference all prior art documents produced in Case Nos. 2:15-cv-01414 and 6:16-cv-00195 in the Eastern District of Texas. The present litigation is in the early stages. Defendants reserve the right to provide additional details regarding the prior art as additional information becomes available through discovery or otherwise.

In addition to the prior art identified above and the accompanying invalidity claim charts, Defendants also may rely on the “Background of the Invention” and other relevant portions of the ’900, ’356, ’715, ’581, and/or ’586 patents, other related patents, and their respective file histories (including references cited in the ’900, ’356, ’715, ’581, and/or ’586 patents and related patents), and other evidence, including fact and expert testimony about that evidence, to prove that the asserted claims are anticipated and/or rendered obvious under 35 U.S.C. §§ 102 and 103. To the extent that Plaintiff challenges a combination of prior art identified by Defendants, Defendants may supplement these invalidity contentions to further specify the reason or motivation to combine the prior art in the manner suggested, noting, however, that the Supreme Court’s holding in *KSR* does not necessarily require a motivation to combine. In *KSR*, the Supreme Court rejected the Federal Circuit’s rigid “teaching, suggestion, or motivation” requirement in favor of a flexible, functional approach in which an explicit finding of a “motivation” to combine prior art references is not required to establish obviousness. The Supreme Court held that it is sufficient that a combination of elements was “obvious to try,” holding that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *KSR Int’l*, 550 U.S. at 421. Nevertheless, Defendants contend that one of skill in the art, at the time the alleged invention

was made, would have been motivated to combine these references in the combinations detailed above and in Appendix F.

Other reasons for combinations of other prior art references are readily apparent from the reasons set forth in the appendices, particularly in light of the extensive disclosures throughout the prior art of elements corresponding to each of the limitations of the asserted patents. In sum, one of ordinary skill in the art would have been motivated to combine these references by education, knowledge, and experience, by the state of the prior art as a whole, by the nature of the problem to be solved, by common sense, and by a desire to create a superior and more desirable system. Moreover, one of skill in the art would have been well-equipped with sufficient education, knowledge, and training to make the specific combinations and other combinations with a reasonable expectation of success. Furthermore, each of the references identified above as an invalidating reference under 35 U.S.C. § 102 also serves as a motivation to combine these references, illustrates the state of the art as a whole, and demonstrates the likelihood of success for such combinations.

The above-identified examples of combinations are given merely to illustrate various motivations to combine and are not intended to provide an exhaustive list of every possible combination to which the motivation may apply. Additional combinations of the references identified above and in the appendices are possible under 35 U.S.C. § 103, and Defendants reserve the right to use or rely on any such combinations and/or any subset of the prior art in this litigation. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiff will contend that limitations of the claims at issue are not disclosed in the art identified by Defendants. To the extent that an issue arises with any such limitation, Defendants reserves the

right to identify other references and combinations that would have made obvious the addition of the allegedly missing limitation to the disclosed device or method of operation.

II. INVALIDITY UNDER 35 U.S.C. § 112

A. The '900 Patent

Claim 1 of the '900 patent is invalid because it fails to meet the written description and enablement requirements of 35 U.S.C. § 112(1). Claim 1 of the '900 patent is also invalid as indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

For example, claim 1 recites “retrieving detailed assignment data for the selected assignment [and] displaying the detailed assignment data to the field crew.” To the extent Plaintiff contends that Defendants perform these steps by “retriev[ing] (from, e.g., COSMOS) detailed assignment data (e.g., customer name, address, and contact)” and “display[ing] detailed assignment data (e.g., customer information[,] . . . delivery time, comments, description, etc.) to the field crew,” (Infringement Contentions, Ex. A at 15-17), the specification of the '900 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claim under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

B. The '356 Patent

Claims 1, 3-5, 7, 11-14, and 17 of the '356 patent are invalid because they fail to meet the written description and enablement requirements of 35 U.S.C. § 112(1). These claims are also

invalid as indefinite under 35 U.S.C. § 112(2) because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 1 and its dependent claims recite “monitoring...locations and movements of the entity and objects within [a] controlled space.” To the extent that Plaintiff contends that claims 1, 3-5, 7, 11-14, and 17 are infringed based on the monitoring of entities or objects within a “controlled space” defined by a geofence or other virtual geographic boundary, each claim is invalid for lack of written description and enablement. In particular, the specification of the ’356 patent directed to claims 1, 3-5, 7, 11-14, and 17 contains no written description support for “controlled space” other than a physically confined space with limitations on ingress and/or egress. Thus, to the extent Plaintiff asserts infringement under such circumstances, the claims are invalid under 35 U.S.C. § 112(1) for lack of written description. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claims indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 1 and its dependent claims recite “wherein at least one of the objects is automatically returned or picked up as a result of such notification.” The ’356 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claims indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 1 and its dependent claims recite “automatically associating, using the computer system, the identity information regarding the entity with status information regarding additions, removals, returns, defective status, or movements of the objects to/from/within the controlled space.” The ’356 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1).

For example, to the extent that Plaintiff contends that claims 1, 3-5, 7, 11 -14, and 17 are infringed based on an allegation that objects have a “defective status” when the objects deviate from a predetermined route, each claim is invalid for lack of written description and enablement. In particular, the specification of the ’356 patent directed to claims 1, 3-5, 7, 11 -14, and 17 contains no written description support for associating objects with a “defective status” based on movement or the location of an object. Thus, to the extent Plaintiff asserts infringement under such circumstances, the claims are invalid under 35 U.S.C. § 112(1) for lack of written description. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

C. The ’715 Patent

Claims 1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25 of the ’715 patent are invalid because they fail to meet the written description and enablement requirements of 35 U.S.C. § 112(1). These claims are also invalid as indefinite under 35 U.S.C. § 112(2) because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 1 and its dependent claims recite “modifying part of the information in the database as a function of other information in the database.” To the extent that Plaintiff contends

that claims 1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25 are infringed based on an allegation that confirming or validating expected inventory contents, the location of specific products, or the status in the supply chain constitutes “modifying part of the information in the database as a function of other information in the database,” each claim is invalid for lack of written description and enablement. In particular, the specification of the ’715 patent directed to claims 1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25 contains no written description support for such “modifying” other than correcting or revising tag read information to update the corresponding data structure with missing or incomplete information regarding a tag’s route through a business process. Thus, to the extent Plaintiff asserts infringement under such circumstances, the claims are invalid under 35 U.S.C. § 112(1) for lack of written description. For similar reasons, one of ordinary skill in the art attempting to practice the claimed inventions under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claims indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 1 and its dependent claims recite “using the modified information to track the tags through the business process.” Claim 19 and its dependent claims similarly recite “using the modified data structure information to adjust the supply chain.” To the extent that Plaintiff contends that claims of the ’715 patent are infringed based on, for example, an allegation that routing shipments based on confirmed or validated inventory contents, locations of specific products, or statuses in the supply chain constitutes “using the modified information to track the tags through the business process,” each claim is invalid for lack of written description and enablement. In particular, the specification of the ’715 patent contains no written description support for such “using” of “modified information.” Thus, to the extent Plaintiff asserts

infringement under such circumstances, the claims are invalid under 35 U.S.C. § 112(1) for lack of written description. For similar reasons, one of ordinary skill in the art attempting to practice the claimed inventions under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, these phrases render the claims indefinite under 35 U.S.C. § 112(2) because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

D. The '581 Patent

Claims 1-14, 16-20, and 24 of the '581 patent are invalid because they fail to meet the written description and enablement requirements of 35 U.S.C. § 112(1). These claims are also invalid as indefinite under 35 U.S.C. § 112(2).

Claim 1 and its dependent claims recite using a handheld device to “access an assessment program stored in a memory of a computing device located geographically remote from the handheld device.” The '581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants use an “assessment program” based on alleged use of “software designed to track delivery and pickup of packages” (Infringement Contentions, Ex. D at 4), the specification of the '581 patent contains no written description support for “assessment program.” For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 1 and its dependent claims recite “enable a field assessment in a specific industry.” The '581 patent does not contain written description support for this element, in violation of 35

U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants “enable a field assessment” by “updat[ing] the status of the package through tracking delivery and pickup of packages, signature capture, and/or take and send geostamped photos of the packages,” (Infringement Contentions, Ex. D at 4-5), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 1 and its dependent claims recite “collecting field data . . . in response to the assessment program.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by collecting “data concerning package pickup and deliveries, along with geostamped signature capture, delivery scans, delivery photos, and delivery confirmation . . . in response to the software designed to track delivery and pickup of packages, signature capture, and take and send geostamped photos of the package,” (Infringement Contentions, Ex. D at 7), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 2 recites “generating field assessment data by rendering the collected field data with the assessment program to complete the field assessment.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that “FedEx generates field assessment data (e.g., data concerning package status or data concerning signature collection) by rendering the collected field data (e.g., by rendering geostamped delivery confirmation or tracking data),” (Infringement Contentions, Ex. D at 17), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 7 and its dependent claims recite “download a field management program stored in a computing device located remotely from the handheld device.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants use a “field management program” based on alleged use of “software designed to track delivery and pickup of packages” (Infringement Contentions, Ex. D at 27), the specification of the ’581 patent contains no written description support for “field management program.” For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 7 and its dependent claims recite “enable collecting field data associated with a field assessment.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by collecting “data concerning package pickup and deliveries, along with geostamped signature capture, delivery scans, delivery photos, and delivery confirmation,” (Infringement Contentions, Ex. D at 33), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). Finally, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 9 depends from claim 7 and recites “the communication module is further configured to enable real-time access to the field management program stored in the computing device.” This phrase renders claim 9 indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claims 12 and 13 each ultimately depend from claim 7 and each recites “the communication modules is further configured to synchronize the field management program or the collected field data.” This phrase renders claims 12 and 13 indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claims.

Claim 14 recites that “the processor is further configured to analyze the collected field data to render output data.” One of ordinary skill in the art attempting to practice the claim under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1),

because it is not clear how a processor is configured to analyze and output data. For similar reasons, this phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim.

Claim 7 recites “a geographic location of the handheld device” and “the geographic location of the handheld device.” Claim 16 depends from claim 7 and recites “the position module [of the handheld device] is further configured to provide navigable instructions to enable finding the geographic location of the field.” This phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim, and because the phrase “the geographic location of the field” lacks antecedent basis. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1).

Claims 6 and 11 are invalid under 35 U.S.C. § 112(4) for failure to specify a further limitation of the subject matter claimed. These claims define the “assessment program” or “field management program” as being one of a list of programs. These definitions are not entitled to patentable weight and thus do not further limit the claims from which claims 6 and 11 depend.

Claim 18 and its dependent claims recite “means for accessing a program stored at the server to enable an assessment at the field using the at least one handheld device.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants “access[] a program (e.g., software designed to track delivery and pickup of packages, signature capture, and take and send geostamped photos of packages) stored at the server (e.g., host server and/or FedEx’s back-end systems) to enable an assessment (e.g., track delivery and pick up of packages, signature capture,

and take geostamped photos of packages,” (Infringement Contentions, Ex. D at 61), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). This phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim. Finally, this term renders the claim indefinite because the ’581 patent specification does not describe any corresponding structure for the means-plus-function term. 35 U.S.C. § 112(2), (6).

Claim 18 and its dependent claims recite “means for managing data collected at the field using the at least one handheld device responsive to program.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by managing “data concerning package pickup and deliveries, along with geostamped signature capture, delivery scans, delivery photos, and delivery confirmation . . . in response to the software designed to track delivery and pick up of packages, along with prompting the user for their signature capture, and take and send geostamped photos of the package,” (Infringement Contentions, Ex. D at 64), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). This phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim. Finally, this term renders the claim indefinite because the ’581 patent specification does not describe any corresponding structure for the means-plus-function term. 35 U.S.C. § 112(2), (6).

Claim 18 and its dependent claims recite “means for enabling updating field operation assignments for each of the at least one handheld device.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by using “software for enabling updating field operation assignments (e.g., delivery and/or pickup orders sent electronically),” (Infringement Contentions, Ex. D at 75), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). This phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim. Finally, this term renders the claim indefinite because the ’581 patent specification does not describe any corresponding structure for the means-plus-function term. 35 U.S.C. § 112(2), (6).

Claim 18 and its dependent claims recite “means for providing data to the server for analysis.” The ’581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by using “software (e.g., ActiveSync) for providing data (e.g., data concerning package pickup and deliveries, along with location, geostamped signature capture, delivery scans, delivery photos, and delivery confirmation) to the server,” (Infringement Contentions, Ex. D at 78), the specification of the ’581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). This phrase renders the claim indefinite under 35 U.S.C.

§ 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim. Finally, this term renders the claim indefinite because the '581 patent specification does not describe any corresponding structure for the means-plus-function term. 35 U.S.C. § 112(2), (6).

Claim 18 and its dependent claims recite “means for retrieving enhanced data from the server for use in conducting the field assessment.” The '581 patent does not contain written description support for this element, in violation of 35 U.S.C. § 112(1). Moreover, to the extent Plaintiff contends that Defendants practice this element by using “software (e.g., ActiveSync) for retrieving enhanced data (e.g., whether or not additional information is required, updated inventory information, or updated directions) from the server,” (Infringement Contentions, Ex. D at 81), the specification of the '581 patent contains no written description support under such an interpretation. For similar reasons, one of ordinary skill in the art attempting to practice the claims under such circumstances would not have been enabled to do so, in violation of 35 U.S.C. § 112(1). This phrase renders the claim indefinite under 35 U.S.C. § 112(2) because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the claim. Finally, this term renders the claim indefinite because the '581 patent specification does not describe any corresponding structure for the means-plus-function term. 35 U.S.C. § 112(2), (6).

E. The '586 Patent

At least claims 7, 8, 12, 13, 16, 18, and 19 of the '586 patent are invalid because they fail to meet the written description of 35 U.S.C. § 112(1).

The '586 patent does not provide sufficient written description to establish that the inventors were in possession of the alleged inventions recited in claims 7, 8, 12, 13, 16, 18, and 19 at the time the '586 patent was filed. Specifically, the applicants did not describe their

purported inventions in a manner that “reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010). To the extent the following limitations are even definite (under 35 U.S.C. § 112 (2)), the ’586 patent fails to sufficiently describe them as required by 35 U.S.C. § 112(1):

- “respective data tags and data items” (claims 7, 8, 12, 13, 16, 18, and 19); and
- “combining the first data tag and the first data item with a second data tag and a second data item recovered from a second one of the plurality of bar codes” (claim 13).

III. INVALIDITY UNDER 35 U.S.C. § 101

Claim 1 of the ’900 patent, claims 1, 3-5, 7, 11-14, and 17 of the ’356 patent, claims 1, 4, 5, 7, 9, 11, 14, 15, 17, 19, 22, 23, and 25 of the ’715 patent, claims 1-14, 16-20, and 24 of the ’581 patent, and claims 7, 8, 12, 13, 16, 18, and 19 of the ’586 patent, are each invalid because they fail to claim patentable subject matter under 35 U.S.C. § 101.

Section 101 of the Patent Act defines patent-eligible subject matter as follows: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. In interpreting this statutory provision, the Supreme Court has held that its broad language is subject to an implicit exception for “laws of nature, natural phenomena, and abstract ideas,” which are not patentable. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014). To determine whether the exception applies, the Supreme Court has set forth a two-step inquiry. Specifically, a court must determine: (1) whether the claim is directed to a patent-ineligible concept, i.e., a law of nature, a natural phenomenon, or

an abstract idea; and if so, (2) whether the elements of the claim, considered “both individually and ‘as an ordered combination,’” add enough to “‘transform the nature of the claim’ into a patent eligible application.” *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297–98 (2012)). Under step (1) the court must evaluate “the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” *Id.* If the claim is directed to a patent ineligible concept (*i.e.*, step (1)), the court must then apply step (2) and “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Id.* at 1258 (quoting *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)). Each asserted claim fails both steps of the *Alice* test and is therefore patent-ineligible.

A. The '900 Patent

Claim 1 of the '900 patent is directed to the well-known and abstract idea of distributing assignments to workers in a field. Claim 1 recites a series of steps that are equally abstract and well-known—these steps are not tied to any particular technology and instead are entirely functional in nature. For instance, claim 1 recites the abstract idea of updating a database, providing notifications, and retrieving and displaying data. The only other functionality that claim 1 adds is a generic login process that verifies a user’s identity and notifies the user of a successful login—also an abstract idea. Claim 1 is reducible to mental processes and/or performable using a pencil and paper without a computer. Indeed, the steps of claim 1 involve longstanding activity that existed well before the advent of computers and the Internet. To the extent that claim 1 even suggests the use of a computer (e.g., “enterprise computing system,” “mobile field unit,” “database”), it is merely a generic computer. A generic computer

implementation, however, would add nothing of substance to the underlying abstract idea, and would fail to convert that abstract idea into patentable subject matter. Moreover, claim 1 fails to recite any inventive concepts, solution based in technology, or improvement to technology; to the contrary the recited features are routine and conventional.

B. The '356 Patent

The claims of the '356 patent are directed to the well-known concept of associating an entity with object status information using a series of steps familiar to inventory accounting: collecting information, correlating information, and reporting the correlated information. To the extent that the claims suggest the use of a computer to perform this longstanding activity (e.g., “wireless tracking system,” “computer system,” “server”) it is merely a generic computer performing routine and conventional operations. Such a generic computer implementation adds nothing of substance to the underlying abstract idea of associating an entity with object status information, and fails to convert that abstract idea into patentable subject matter. Indeed, the claims are reducible to mental process and/or performable using a pencil and paper without a computer. Moreover, the claims fail to recite any inventive concepts, solutions based in technology, or improvements to technology.

C. The '715 Patent

The claims of the '715 patent are directed to the well-known concept of collecting and manipulating data in the context of tag tacking, a longstanding activity that existed well before the advent of computers. Indeed, the claims are not tied to any particular technology and, instead, are entirely functional in nature. Notably, the claims are reducible to mental process and/or performable using a pencil and paper without a computer by, for example, visually observing a tag in a business process, recording the observed information in a notebook, modifying the

recorded information, and using the updated information to further track the tag through the business process. To the extent that the claims suggest the use of a computer (e.g., “reader,” “database,” “processor”), it is merely a generic computer. A generic computer implementation, however, would add nothing of substance to the underlying abstract idea of collecting and manipulating data in tag tracking, and would fail to convert that abstract idea into patentable subject matter. Moreover, the claims fail to recite any inventive concepts, solutions based in technology, or improvements to technology. Instead, the recited features are routine and conventional activity.

D. The '581 Patent

The claims of the '581 patent are directed to the well-known and abstract concept of collecting and communicating data from a field location. Here, the abstract idea of the '581 patent claims is a broad and familiar concept that covers a fundamental practice prevalent across many businesses and well known long before the advent of computers and the Internet: collecting data from the field for an assessment and communicating that data to a computer for processing. Indeed, the claims are reducible to mental processes and/or performable using a pencil and paper without a computer. The claims are not tied to any particular technology and are instead entirely functional in nature. To the extent that the claims even suggest the use of a computer (e.g., “handheld device,” “computing device,” “memory,” “processor,” “program”), it is merely a generic computer. A generic computer implementation, however, would add nothing of substance to the underlying abstract idea of the '581 patent, and would fail to convert that abstract idea into patentable subject matter. Moreover, the claims fail to recite any inventive concepts, solution based in technology, or improvement to technology; to the contrary the recited features are routine and conventional.

E. The '586 Patent

The claims of the '586 patent are directed to the abstract idea of creating an electronic document having bar codes. Encoding information into bar codes and printing them was already well known in the art and standardized prior to the '586 patent. The '586 patent admits as prior art the use of standardized bar codes and discloses that an electronic document can be nothing more than a well-known Microsoft Excel or Microsoft Word document. '586 patent at 4:35-38, 65-67. To the extent that the claims suggest the use of a computer to perform this longstanding activity (e.g., "creating an electronic document," "computer-readable storage device," "computer system," "processor") it is merely a generic computer performing routine and conventional operations. Such a generic computer implementation adds nothing of substance to the underlying abstract idea of encoding information into bar codes and fails to convert that abstract idea into patentable subject matter. Indeed, the claims merely recite a business process that constitutes nothing more than the abstract idea of creating an electronic document having bar codes. Moreover, the claims fail to recite any inventive concepts, solutions based in technology, or improvements to technology.

IV. PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS

Pursuant to P.R. 3-4(b), Defendants are producing prior art references and corroborating evidence concerning prior art systems, including, but not limited to, Bates Nos. FDXIV00000042-FDXIV00000517, FDXIV00017148-FDXIV00021206, and FDXIV00022247-FDXIV00034634. These prior art references and corroborating evidence are cited in and support the accompanying invalidity charts. Defendants' search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems is ongoing. Accordingly, Defendants reserve the right to continue to supplement their production

as Defendants obtain additional prior art references, documentation, and/or corroborating evidence concerning invalidity during the course of discovery.

Defendants also object that Plaintiff has not supplied detailed infringement contentions as required by P.R. 3-1, and reserve the right to supplement their production of technical data under P.R. 3-4(a) in the event that Plaintiff is allowed to amend its infringement contentions to provide the detail that is required under the Rules and is necessary to guide Defendants' collection and production of technical data. Discovery in this case is in its early stages, and Defendants reserve the right to supplement their production of technical information as additional relevant documents are located.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 14, 2017, a true and correct copy of the foregoing was served on the following counsel of record *via* e-mail:

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